Comparison of certain mental traits of public and parochial school pupils together with differences in parental values

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COMPARISON OF CERTAIN
MENTAL TRAITS OF PUBLIC AND PAROCHIAL
SCHOOL PUPILS TOGETHER WITH
DIFFERENCES IN PARENTAL
VALUES

THESIS
SUBMITTED TO THE FACULTY OF THE SCHOOL OF EDUCATION
ATLANTA UNIVERSITY IN PARTIAL FULFILLMENT OF
THE REQUIREMENT FOR A MASTER OF ARTS
DEGREE IN EDUCATION

BY
MARY RUTH SMITH
SCHOOL OF EDUCATION

ATLANTA UNIVERSITY
JUNE 1960
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MARY RUTH SMITH
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CHAPTER I

INTRODUCTION

Conceptual Framework.—From the very beginning of this country there was concern about some form of education for children and youth. Frequently, these various religious, political and economic interests mesh, and, as a result, there are various public and parochial schools in existence today. There are divergent opinions regarding the relative merits of privately and publicly supported schools, but there is general agreement that each serves a unique function in a democracy.

Any school, whether public or parochial, is a distinctive group with its own unique features. However, all schools as institutional groups have the following common characteristics: "a degree of closure" usually expressed in terms of the child or family meeting certain conditions before they can participate; "a set of positions," simple or complex, to which the members are assigned, such as principal, supervisor, teacher, pupil, janitor; "a normative order," which regulates the conduct of the members to each other and to outsiders; "a functional order," of the various activities and tasks that it is the business of the group to perform; and "values" which the group serves or supports. 1

The public-school system as it is known today is only eighty years old. The schools have been designed to meet basic needs of youth or to preserve and advance the welfare of society. They are supported and controlled by the secular government.

The more important parochial schools today are the Roman Catholic, Lutheran, and Seventh-Day Adventist. They have been basically organized for the purpose of promoting the letters, science, and arts in so far as necessary or helpful to Christian education, and to found schools and institutions. Their existence is maintained by the church and tuitions.

Among schools of both types there are some of the most progressive and forward-looking schools, staffs and programs in the United States. In fact much experimentation along advanced lines has been done in the parochial, independent schools.

Free public education in the United States is less than a century and a half years old. Its origins, to be sure, trace back to the colonial period and the determination of our Puritan fathers to equip each young person with the skills essential to read and interpret the Bible for himself and thus to assume direct responsibility in saving his own soul. But as an institution free to the children of all the people and sustained by general taxation, the American public school dates from the early years of the nineteenth century. Its growth and development depended upon the acceptance of two basic principles; (1) the right of each child to receive an education at public expense and the corresponding duty of each citizen to contribute to education

in accordance with his means; and (2) the application of the principle of separation of church and state to the field of public education.

To further public education the "Old Deluder Satan" Act passed by the Company of Massachusetts Bay in 1621 showed significance of religion in the promotion of education. It was the Protestant insistence that a man read and interpret the Scripture for himself, and in order to do this, he must be taught to read. In essence, the act provided for free, general, if not compulsory education for all. New Englanders brought this educational ideal and educational practice with them as they migrated into the interior of this country.

After the Revolution, education was recognized as a form of public good, and the colonies adopted constitutional provisions for public-supported education. However, the matter to be considered was the attainment of this good. The struggle for public support, control of education and compulsory attendance continued well into the twentieth century. Massachusetts passed the first compulsory attendance law in 1852 and Mississippi passed the last one in 1918. The United States Supreme Court ruled the Oregon School case in 1925 that children of compulsory school age could not be compelled to attend public schools. The first permanent public school fund was set up in Connecticut in 1795, whereas, the principle of public support for elementary education was not firmly established until the middle of the nineteenth century and in 1874 the legality of using taxes for secondary education was determined. As a result, public support of secondary and elementary education was assured.
The end of the American Revolution brought about a change in the basis for justifying education. The tendency was to loosen the tie between religion, education, and state.

As Madison and Jefferson\(^1\) and their associates concluded, from observation and experience with the contrary, both the interests of religion and the liberties of the people are best served when religion is "wholly exempt" from the cognizance of civil society.

The adoption of this principle in education has led to the American parochial school which is an institution that carefully scrutinizes sectarian institutions and seeks rather to educate for desirable qualities of mind and character through ways of thinking and ways of living that brings forth parochialism.

Harry Emerson Fosdick\(^2\) credits the public school with effective training for moral and spiritual values in three important respects: "... as an inevitable by-product of their daily work in sports and the curriculum; through the personal influence of teachers; and by dealing increasingly with the whole personality of pupils."

The parochial schools are an integral part of the American educational system. They perform the same public function as the secular schools in preparing children for American citizenship. The parochial school is thus non-public in that it is wholly devoted to the promulgation of sectarian doctrine and to sectarian ways of thinking. It does not profess to be nor can it afford to be objective and disinterested in

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significant areas where men disagree. Its interests are not the interests of the public, but of one segment of the public. The intermixture of secular and religious education does not make it possible for the public to subsidize only the secular instruction which goes on within the parochial school. We can hardly justify the existence of the parochial school on the ground that its unique religious viewpoint enters into the ways and woof of all it teaches, and at the same time lay claim to public support on the theory that it promotes an education with that of the public school.

Several decades witnessed tremendous propaganda, public discussion, and memorializing of legislatures for the institutionalizing of public education. Operators of charity and parochial schools opposed the spread of free public-supported and public-controlled education.

The arguments for and against the establishment and expansion of public schools were:

For: ¹

1. The supremacy of the state and the state as parens patriae.
2. Egalitarian values centering in the idea of equal worth and dignity of the individual.
3. The doctrine of the separation of state and church.
4. The necessity of having enlightened citizens.
5. The worth of the school as an instrument for social advance and progress.

Against:  

1. That the status quo should be preserved (the traditional is good, i.e., in terms of existing social classes, educational facilities and property rights).

2. That there is a natural order as evidenced in a high association between intelligence and the distribution of property and wealth, and social class, and this order should not be violated.

3. That public education is irreligious, godless, and therefore contributes to social and moral decay.

4. That certain anti-equalitarian values are good.

5. That education is not the business of the state.

6. That public-controlled education is an interference with parental rights in the education of children.

7. That a public-school system is un-American.

8. That a public school system would foster centralization of government power and bureaucratic control over people.


The parochial schools cooperate as far as possible with the state with regard to schooling. This cooperation takes the form of "civic education," by which is meant "information having an intellectual, imaginative, and emotional appeal, calculated to draw their wills to what is upright and honest . . . . to include almost every activity of the state intended for the public good." Therefore, the parochial schools maintain the following for the expansion of their schools.  

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1. Expansion of education in parochial schools.

2. Maintain schools in which children can be trained in the religion of their parents.

3. Freer to develop new methods and try experiments, and serve as yardsticks in the competitive area of creating better methods of imparting knowledge.

4. Promotes an intellectual training which makes for harmony and unity.

5. Perpetuates a secular emphasis of this nature which is indispensable for the continued growth of the democratic spirit.

6. Instills in youth a confidence in themselves and their world, a spiritual resiliency that is sadly lacking.

The foregoing emphasis in parochial schools is closely related to values held by many citizens. There is a need for emphasis on the moral and spiritual values of the school program, but very little is done other than verbalizing this need. Moral and spiritual values are discussed objectively and theoretically at many educational conferences throughout the year. It is not anticipated that the values of students preparing to be teachers will vary markedly from those held by other young students. But we must study, particularly, the values held by our future teachers, tomorrow's leaders, in order to plan further how we may build a program that strengthens our American democratic way of life.¹

The Study of Values is mainly a scale for measuring the dominant interests in personality. The people of all nations have certain values

on which their society rests. It is important to have a substantial agreement existing among the people of any given culture. In spite of variations in practice, there is a generally accepted body of values which the American people tend to use as a compass for finding their way through theoretical, economic, aesthetic, social, political and religious values. The public schools strive to teach the pupils to become good citizens. This within itself promotes cooperation in living, finding one's place in society and learning the sense of values. Teachers as well as citizens agree that the different holiday observances, programs and daily devotions fill the needs for pupils in the public school.

Although these declarations are not couched in terms of rituals or other religious forms, the major religious groups can discover in their respective Bibles and creeds many statements which support them. Parents should cooperate with schools and go further to develop in all youth a strong sense of responsibility for community well-being and willingness to devote themselves unselfishly to it.

Aesthetic values lend toward creative abilities of pupils. In terms of education this value means a careful inventory of all the useful abilities of all youth. It means teaching the children responsibility for recognizing and placing in posts of leadership persons of highest talent, training, and virtue. It means that the highly gifted as well as the average or handicapped students need attention from parents and teachers.

Housing is one of the indices of the economic status of a family. Bad housing is a system of low economic status. Housing not only affects the physical health of children but it also can contribute to their social and emotional development.
The parents concerned (that had taken this Study of Values) lived in desirable areas. Such parents, while they moderate the egotistic tendencies and strengthen the social and cooperative impulses, will also insist that each child learn to accept individual responsibility. Such parents will be consistent in fostering participation in a variety of humane and constructive activities and at the same time applauding and encouraging every effort to achieve self-reliance and self-respect.

The current attitudes toward public and parochial schools have been mentioned as a result of investigations that were conducted between the years of 1932 and 1952.

Problems created by the growing complexity of our environment have been reflected in our schools. As a result, there are many flaws in both schools. In the public schools the population is too heterogeneous and the qualifications of teachers in some areas do not require enough education. Teaching in the parochial schools has lagged far behind academic school teaching in educational method and understanding of Child Psychology.

Evidence accumulated by comparing public and parochial school children grouped according to the occupation of parents revealed differences in health, attitudes toward success, and school. Difficulties common to both groups were health problems and physical disabilities, speech problems and social behavior problems.

Investigations revealed favorable aspects of both schools. Pupils prepared in public high schools made higher grades, received more high academic honors, were more rarely dropped for scholastic or disciplinary reasons, and made higher grades in comprehensive tests concerning their
entire major field. It appeared that the parochial schools did a better job of getting their graduates into college than of preparing them to do well when they got there.

Dahlke summarizes education in the United States by including all other schools. The more important parochial schools are the Roman Catholic, Lutheran, and Seventh-Day Adventist. Federal schools for Indians, private preparatory schools for boys, for girls, or the type that is coeducational and schools for exceptional children or the handicapped are maintained. In addition, the following should be noted: schools of art, Bible schools, private business schools, schools of chiropody, country day schools, schools of embalming and mortuary science, schools of fashion art, schools of home study and correspondence, schools of labor, military schools, music schools, nursing schools, schools of optometry, of osteopathy, of photography, of physical education, of public health, technical and trade schools, schools of occupational therapy, of physical therapy.

The number of public-school administrative units and the number of schools for 1951-52 were as follows: of the public-school system, ultimate or basic administrative units, 70,993; elementary schools 123,763 (of which 50,742 were one-teacher); secondary schools 23,746; of non-public schools, elementary 10,666 and secondary 3322; residential schools for exceptional children (1945-46), public 307, private 137; institutions of higher learning, public 641, private 1191; schools of nursing not affiliated with colleges and universities, 984.

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The principle of separation of church and state is admirably adapted to a country of multiple religions. It rests upon the assumption that religion is a right and ought to be a matter of private conscience and religious organizations which are voluntary associations. Freedom of religion requires strict neutrality on the part of the government. This neutrality, it is believed, can best be assured and perpetuated when government refrains from all efforts either to support or to regulate religion. It is the belief of many that children who attend parochial schools are superior to those who attend public schools.

This study involved the testing of the following hypotheses:

1. There is no difference between the measures of central tendency of the tests of the pupils from the public school and the pupils from the parochial school.

2. There is no difference between the standard deviation of the tests of the pupils from the public school and the pupils from the parochial school.

3. There is no difference between the measures of central tendency of the values of the public and parochial school parents.

4. There is no difference between the standard deviation of the values of the public and parochial school parents.

The findings will reveal how homogeneous the groups are and how like-minded they are. If the analysis is to be of maximum utility, however, it must tell something about the psychological actions involved in variable and uniform behavior. Not only are pupils confronted with the contradictory demands of many institutions, but its immediate family may reflect the heterogeneity of the culture in the diverse and opposed attitudes of its parents and other relatives. Growing girls and boys in a culture where diverse and contradictory influences are encountered daily, face a difficult problem in attaining an integrated group of intellectual
habits and attitudes.

**Evolution of the Problem.**—This problem grew out of the writer's interest in effective schools for children and youth. As a result of study and observation these conclusions evolved and formed the basis for the present day study. First of all schools play an important role in determining the moral development of the young people who attend them. The character education providing these various personalities involves the total aspect of the child and is a function of all the stimuli or fields of force which play upon him as he makes his adaptations to the environment. Even though schools have organized efforts to develop curricula which includes a philosophy of character education, parents are continuously insisting that the schools do more in their methods of inculcating such an education in children.

Secondly, it became increasingly evident that the individual's community or environment is primarily responsible for the type of moral code he develops. The home or family seems to be the more important institution for developing moral codes. If the highest order of morality prevails in actual practice in a family, it is probable that the members will develop a moral code of a corresponding character. However, if the home is marked by constant bickering and fighting, torn by jealousies and self-centeredness, broken by separation or divorce, or permeated with the belief that one should get as much as he can and give as little as possible in return, the results will not be nearly so desirable. Delinquency and crime are likely to result if the code of behavior is developed under such conditions. The school is only one of the agencies working toward the development of a desirable moral code. Nevertheless, it contributes indirectly and unintentionally to the manifestation of
acts of delinquency in the case of some pupils by insisting that everyone complete a curriculum which is predominantly academic.

As a result of these problems, opinions and discussions have developed with regard to the superiority of some schools over others.

Statement of the Problem.— This study was concerned with the comparison of the rated personality, school achievement, and intelligence of a group of children in the fifth grade who attended a public school and a group of children in the fifth grade who attended a parochial school. Another facet of the problem was to determine the differences, if any, in the values which motivated the parents of the children who attended the public school and those which motivated the parents of the parochial school children.

Purpose of the Study.— The purpose of this study was to collect data out of which answers to the following were drawn:

1. Do the two groups differ significantly in the areas of personality which are measured by the Pupil Adjustment Inventory?

2. Do the scores made by the two groups on the Lorge-Thorndike Intelligence Tests of Mental Ability differ?

3. Do the two groups of children differ significantly in their performance on the Sequential Tests of Educational Progress which measure listening comprehension, reading comprehension, science, mathematics and social studies?

4. Do the parents of the two groups of subjects differ significantly in the values which motivate them?

5. What are implications and recommendations which may be drawn from the study and used to the advantage of persons in both parochial and public schools?

Limitations of the Study.— This study was not concerned with causes or reasons for retardations that might appear in the findings.

It was concerned with the variations in teaching methods, in the character
of materials offered, and the general procedure in the classroom or with how children use what readiness they possess. The findings comprise the study of thirty public school pupils and thirty parochial school pupils. The values of the parents of both groups were measured through one instrument. The instruments used for studying the pupils are highly representative, but are of paper and pencil variety. Hence, other facets of achievement are not included.

Locale and Subjects.— The subjects in this study were equal numbers of pupils of the fifth grade class of Berean Seventh-Day Adventist Junior Academy which is a parochial school in Atlanta, Georgia and fifth grade pupils of Thomas Heathe Slater School, which is a public school, in the city of Atlanta. An effort was made to make the two groups comparable by selecting children from the public school whose parents compared favorably with the church school children's parents on certain educational and occupational factors. The values which motivate the parents of the two groups were considered, thus making the parents minor subjects.

Definitions of Terms.— The basic terms that will be used in this study are defined as follows:

1. Intelligence — Intelligence refers to whatever is measured by the Lorge-Thorndike Intelligence Tests.

2. Personality — Personality refers to whatever is measured by the Pupil Adjustment Inventory published by Houghton Mifflin Publishing Company.

3. School Achievement—School achievement refers to whatever is measured by Sequential Tests of Educational Progress.

4. STEP Tests — The Sequential Tests of Educational Progress (STEP) are a new series of achievement tests of a new kind. They measure critical skills in application of learning in seven major fields of school and college instruction.
Method of Research.-- A combination of the normative survey, statistical, and questionnaire methods was used for this study.

Description of Instruments.-- The instruments that were used in this study to gather data were the nine tests and questionnaire that follows:

1. Pupil Adjustment Inventory
2. Lorge-Thorndike Intelligence Tests
3. Listening Comprehension Test of STEP series
4. Reading Comprehension Test of STEP series
5. Science Test of STEP series
6. Mathematics Test of STEP series
7. Social Science Test of STEP series
8. Questionnaire About Child's Home and Community Life
9. Allport and Vernon Study of Values

Pupil Adjustment Inventory.¹-- The systematic analysis provided by the Pupil Adjustment Inventory gives information which will help school personnel understand the student with greater clarity so that he may be more adequately helped in his growth and learning. The Pupil Adjustment Inventory can contribute to securing understanding by helping the teacher keep in mind the various factors that affect an individual's development. The Inventory is particularly useful in assisting teachers to work with each new group of pupils they usually meet at the beginning of a school year.

Lorge-Thorndike Tests.\textsuperscript{1}-- The Lorge-Thorndike Tests are group tests. There are two batteries, Verbal and Nonverbal, and for each battery there are two exactly comparable forms, A and B. The Verbal Battery\textsuperscript{2} is made up of subtests which use only verbal items. Experience has shown that verbal test items give a good measure of the ability to do typical classroom assignments. Thus verbal items provide a good index of scholastic aptitude.

The Nonverbal Battery uses items which are either pictorial or numerical. For the average pupil, such tests do not predict school achievement quite so well as scores from a verbal type test. However, they do give an estimate of scholastic aptitude which has not been influenced by any lack of ability to read. The difference between performance on the two batteries may be useful in revealing significant facts about reading achievement, school progress, or vocational prospects.

Sequential Tests of Educational Progress (STEP).\textsuperscript{3}-- The Sequential Tests of Educational Progress (STEP) are a series growing out of the demands of educators for instruments measuring the broad outcomes of general education, rather than the narrow results of any specific subject-matter course.

STEP provides for continuous measurement of skills over nearly all of the years of general education, so that the cumulative effects of


\textsuperscript{2}Ibid., p. 13.

instruction can be ascertained. The tests are long enough and broad enough to provide for sound individual interpretation.

Following is a brief description of the tests in each area of the STEP\(^1\) Tests:

**LISTENING:** Measures ability, through listening to passages read by the teacher, to comprehend main ideas and remember significant details, to understand the implications of the ideas and details, and to evaluate and apply the material presented.

**READING:** Measures ability to understand direct statements, to interpret and summarize passages, to see motives of authors, to observe organization of ideas, and to criticize passages with respect to ideas and purposes of presentation.

**SCIENCE:** Measures ability to identify and define scientific problems, to suggest or eliminate hypotheses, to select procedures for testing hypotheses, to interpret data and draw conclusions, to evaluate critically statements by others, and to reason quantitatively and symbolically.

**MATHEMATICS:** Measures mastery of the following broad mathematical concepts: number and operation symbolism, measurement and geometry, function and relation, deduction and inference, and probability and statistics.

**SOCIAL STUDIES:** Measures social studies understandings, abilities to read and interpret social studies material (maps, graphs, the printed word, etc.), skills in seeing relationships among basic facts, trends, and concepts, and ability to analyze such material critically.

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\(^1\)Educational Testing Service, Sequential Tests of Educational Progress, Cooperative Test Division (Princeton, N. J.: Cooperative Test Division, pp. 5-6.)
WRITING: Measures ability to think critically in writing, to organize materials, to write material appropriate for a given purpose, to write effectively, and to observe conventional usage in punctuation and grammar.

ESSAY: Measures quality of student essays in comparison with essays on the same topics written by a large group of students at comparable educational levels and rated by a committee of outstanding English teachers.

Study of Values. The purpose of the Study of Values aims to measure relative prominence of six basic interests or motives of personality: the theoretical, economic, aesthetic, social, political and religious. The classification is based directly upon Edward Spranger's Types of Men.

Research Procedure. The procedural steps that were followed in this study are outlined below:

1. A review and summation of the literature pertinent to this study was made.
2. The Questionnaire About Child's Home and Community Life was given first at the parochial school.
3. The Lorge-Thorndike Intelligence Test was administered to both groups at their respective schools.
4. The Pupil Adjustment Inventory was rated for both groups.
5. The Sequential Tests of Educational Progress of Listening

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Comprehension, Reading Comprehension, Science, Mathematics and Social Studies were administered to both groups.

6. The Allport and Vernon Study of Values was administered to both groups of parents.

7. All tests were administered by the writer.

8. The data secured from the administration of the tests was organized statistically as determined by the purposes of this study. In order to do this the following statistics were used:

   a. Measures of Central Tendency
   b. Standard deviation
   c. Standard error of a mean
   d. Standard error of the difference between the mean
   e. "t" test - the significance of the difference between means at the .05 level of confidence.

Related Literature.-- There were many studies concerning public and parochial school pupils in various aspects. A rather interesting comparison of the two groups would cause parents to really think as to where a child should spend the major portion of his school day. Investigations of public and parochial school pupils have revealed interesting facets that are favorable and unfavorable.

The valuable purposes that parochial schools have served in America's education have been set forth by Alexander and Saylor. They are as follows:

1. To prevent the state's domination and control of the individual from becoming too extensive.

2. To seek to improve educational practice.

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3. To provide services not possible in public schools.

4. To provide types of instruction not commonly found in public schools or not possible for them to offer.

At Dartmouth College and Harvard University investigations revealed that pupils prepared in public high schools made higher grades, received more high academic honors, were more rarely dropped for scholastic or disciplinary reasons, and made higher grades in comprehensive tests concerning their entire major field. It appears that the parochial schools do a better job of getting their graduates into college than of preparing them to do well when they get there.2

Albert Lynd3 who is referred to in the foreward as "an ex-teacher now happily established in business in Boston says many things against public schools.

Lynd seems to think that the problems created by the growing complexity of our environment have also had to be reflected in our schools. He identified many flaws in the public school system. The following are only a few of his complaints:

1. Too much maligned "enrichment" has been forced upon the schools through the failure of church, family, and various social institutions to perform as they once did in guiding youth.

2. School population is too heterogeneous. (near morons and maladjusted children together because of forced attendance)

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3. No specially prepared professional personnel. (Qualifications of teachers in some areas do not require enough Education.)

4. Too many of the teacher education institutions are diploma mills.

Mr. Lynd's final recommendation deals with the parochial schools. He feels that parents who are at all able to do so should withdraw their children from the public schools and send them to "one of the good parochial schools." Parochial schools are of many varieties. Some of them render an excellent educational service, particularly to specialized kinds of student personnel not yet adequately provided for in public schools. Some of them are worthless. Many of them are not much of anything but expensive. Much of the vaunted superiority of certain parochial secondary schools is based upon the prestige-granting value of their diplomas rather than on any superior educational contribution. Fair objective comparisons between topflight parochial preparatory schools and public high schools, in which such student factors as scholastic attitude, family background, and educational objectives are equated or "controlled," tend to disprove alleged superiorities of private education.

Investigators have accumulated evidence by comparing parochial and public school children by grouping children according to the family income or according to the occupation of parents. Physicians consider the children from the lower economic level less robust than those from other groups. Ratings, indicative of excellent health, were three times as frequent at the economically independent level.
A study of parochial urban grade school children in Pennsylvania revealed better general physical ratings, better bone development and less illnesses in their school group though it found no differences in weight status, dental scores or in hemoglobin. On the other hand, there are certain pressures upon the more privileged children. Middle and upper class children and children who are able to attend non-public schools are from early childhood to the pressure for success in life and for social acceptance by the "right people." Success is demanded of children in quite different proportions depending upon family status in the community. Children of lower class parents attending public schools more readily accept special classifications in retarded classes, quitting at the end of the eighth grade.

Since many of the parochial schools are church-schools, teaching has lagged far behind academic school teaching in educational method and understanding of Child Psychology.

Hartshorne and Lotz analyzed one hundred of the better parochial schools in the United States. They took stenographic records of the proceedings and analyzed these. They reported that the class-work of these one hundred teachers was almost wholly factual, dominated by formal rote learning and dogmatic instruction. Only 20 per cent of these teachers made any attempt to measure their results. The use of authoritative instruction offered no opportunity for the children to accept what

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1. B. S. Sanders, Environment and Growth, (Baltimore, Maryland: Warwick and York, 1934), p. 82.

was being taught them on any but a passive basis.

In examining published data Torgerson found in a study of 1270 pupils from grade one to eight the following percentages of children having these difficulties.

31 per cent had scholarship difficulties.
27 per cent suffered from reading disabilities.
20 per cent had social behavior problems.
15 per cent had speech problems.
13 per cent had health problems and physical disabilities.

In this paper the child who is to be studied is determined by the types of problems which many teachers expect and the sorts of problem behavior for which they search. For instance, the referrals from a public school, which followed strict routines, and in which there were crowding of pupils, were almost all disciplinary cases or subject matter failures. A parochial school with which the former was compared sent to the school psychologist considerably more cases in which children suffered from fear, shyness, and social maladjustment.

In contrast to what Torgerson said of a group of children attending public schools, Lotz says the following of parochial schools:

4 per cent had health and physical disabilities.
5 per cent had speech problems.
7 per cent had slight nervous tendencies.
15 per cent had social behavior problems.
8 per cent attend church with their parents.


Furthermore, the following facts were found:\(^1\)

1. Girls and boys in parochial schools are more dependent upon adults for help.

2. There are less mental disorders in youth in parochial schools.

3. Girls and boys in parochial schools did not work (outside) as did girls and boys in public school.

   (a) Boys in public schools worked from four to eight hours daily earning spending money.

Hermese E. Johnson did a study of Socio Economic Status and School.

She was interested in the following:

1. Parental status
2. Religious affiliation
3. Occupational status
4. Number of children in home
5. Housing conditions

Hermese E. Johnson\(^2\) in her thesis found:

"The comparisons of groups under the socio-economic classifications of parental status, religious affiliation, and occupational status revealed slight differences which do not approach statistical significance.

The comparisons of groups under the socio-economic classifications of number of children in the home and housing ratio revealed differences which are statistically significant and may indicate that there is a casual relationship between gain in school achievement and the conditions of more room and fewer children in the home."

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In a California investigation involving the developmental study of 500 nursery-school children over a three-year period, it was reported that children coming from homes where parents disagree on methods of discipline are much more often problem cases than the children whose parents agree on methods of controls. In other words parental factors play an important role in a child's life.¹

Terman and Burks² found the following as a composite portrait of the intellectually superior child. It is not to be assured that each superior child will have all of these characteristics or even a majority of them. The array should, on the other hand, dispel the notion that a superior child must have some outstanding weakness or inferiority. The list was taken from an article summarizing many research studies.

1. **Profession of father.** The superior child's father is a professional man in three cases in ten, is in the semiprofessional or higher business group in five cases in ten; there is only one chance in ten that he will be in the semi-skilled or unskilled laboring class.

2. **Education of parents.** The average grade reached by the parents of superior children is the twelfth.

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At least $1/4$ of the fathers and $1/10$ of the mothers are likely to be college graduates.

3. **Physique and health.** Superior children run about an inch to an inch and a half taller than the average child. They are above the norms in weight, breathing capacity, strength of grip, arm span, width of shoulders, and width of hips. In walking, in talking, and in dentition they are likely to be precocious as compared with the average child.

4. **Progress in school.** They are more likely to be accelerated in grades and to make better marks than the average child. They are no better than average in penmanship or musical ability. They are slightly above average in physical education, manual training, or painting. About $1/3$ can read before they enter school.

5. **Special interests.** The quantity and quality of their reading is above average. They have more hobbies and enthusiasms, make more collections. Their vocational ambitions are higher. Their play interests are more mature; boys prefer games and sports that are more boyish than average, and girls prefer sports that are a little less typically girlish.

6. **Personality traits.** They are superior to the average child in such traits as sense of humor, willingness to face difficulties, independence, self-assurance, trust-worthiness and in social ideals.
The unusual child, as examined in the school, typified the mistakes which grew from the attempt to fit all children into a common mold.

Stoddard and Wellman in a summary study on intelligence and environment found the following:

It is to be said that the I. Q. as shown in the results of intelligence testing, is an expression of the hereditary disposition of the individual, unless he has been affected by some physical disease, sensory handicap, or other extraneous physical influence. However, there have been various studies which seem to show that the social environment has more of an influence in the I. Q. than was at one time suspected.

Dr. Findley made a Summary of Findings of Learning and Teaching in Atlanta's Schools, 1955-56. From this study designed primarily to determine differences in school achievement between white and Negro pupils, the educationally most significant fact to note is the even larger differences in school achievement within the two groups separately.

He also found the following:

On all tests at all levels, between 35% and 50% of the scores of white pupils are matched by a corresponding percent of the scores of Negro pupils. When individual elementary schools are compared, a few of the Negro elementary schools have a higher average achievement than a small number of the white elementary schools do.

1 G. D. Stoddard and Beht L. Wellman, Environment and the I. Q., (Yearbook, National Social Studies Education. 1940, 39(1), pp. 405-442.

Also median and average scores for white pupils are above, at, or "within striking distance" of national averages at all grade levels.

Streitz\textsuperscript{1} reviews an experiment which was set up in the public schools of Cincinnati to deal with 400 children of legal school age but who were developmentally immature and would probably become reading failures. The basis for the program was health, language development, and enrichment of experience. What was done with the health program is suggestive of what can be done. Physical corrections were undertaken in a clinic: a daily program of feeding, rest, fresh air and exercise was set up. Along with this was a program of special visual education and conversation in the classroom, many excursions, and such experiences as would help tenement children to widen familiarity with plants and animals. No reading was attempted in the first year, but was introduced instead as a part of the second year of schooling.

Careful checks on health and social adjustment were kept. Streitz reports that "the results seem to indicate that a large proportion of this disadvantage (of mental age) and the apparent immaturity is due to physical conditions and the children's home environment."

Parental Attitudes Toward Public and Parochial Schools.— Such information as was reviewed in the previous section gives significance to parents' attitudes toward both types of schools. Free public education in the U. S. A. gives each child an opportunity to receive an education at public expense.

\textsuperscript{1}R. Streitz, "When Should Reading Experience Begin?" In: Growth and Development, The Basis for Educational Programs. (Progressive Education Association, New York: 1936), pp. 45-46.
Free public education has perpetuated to a high degree the open advantages of America and has enabled each person to envisage the possibility of bettering his position in life. Without such public education progress would have been at a standstill. Majority of parents would not have been able financially to prepare or raise their children to be possessed with spirits of adventure and the habits of community that have served as a social cement in a highly diversified and heterogeneous people.

The Supreme Court\(^1\) ruled that a tax-supported public school system cannot be used to promote parochial interests in religion. Many parents charged that this was banishing God from the schools. Out of this many private, parochial and other religious schools opened. Parents who wished for their children to receive religious instruction in the school's curriculum withdrew their children from public school. These parents are in favor of use of the Bible in school, prayers, religious ceremonies in the daily work of the schools; the introduction of programs of religious education that have in mind the indoctrination of children in religion either directly through the curriculum, or indirectly, with the help of the administration of the school.

The parochial school in some areas seeks help from "auxiliary services," noticeably transportation facilities and free textbooks.

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\(^1\) V. T. Thayer, The Attack Upon the American Secular School, (Boston: The Beacon Press, 1951), p. IX.
Value Studies.-- These attitudes are in essence a reflection of values held by the parents, and hence, the literature was canvassed for further information about them. A value is an attitude, a standard, or a belief which the individual has selected from the many concepts that beset him in his environment and the findings that struggle within him.

The writer used basically the Allport-Vernon Study of Values for this study.\(^1\) Others have used value studies in relations to their studies. Fay Corey\(^2\) did a study to determine what the values of future teachers studying in our colleges actually are and how they relate to accepted values. Havighurst's technique of agreeing, disagreeing, or remaining undecided was a study developed in Adolescent Character and Personality. The sentence-completion test as used by Symonds\(^4\) and Stein\(^5\) as a projective technique proved useful.

The literature as written is related to the writer's thesis in various aspects. This study is to be concerned with the comparison of the rated personality, school achievement and intelligence of a

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\(^3\) Robert Havighurst and Hilda Taba, Adolescent Character and Personality, (New York: John Wiley and Sons, Inc., 1949), p. 45.


group of children in the fifth grade attending a public school and a group of children in the fifth grade attending a parochial school. The significant differences, if any, will be given in each area.
CHAPTER II

RESULTS AND INTERPRETATIONS

Introduction and Preliminary Procedures

Explanatory Statement.-- In this comparison of test performances of private and public school pupils, the data were treated in accordance with basic questions raised in the statement and definition of the problem. This Chapter presents detailed discussions of the subjects through verbal and tabular descriptions, results from testing as to whether significant differences are found in various traits and then moves into the specific requirements of the basic research.

Specifically the major body of the Chapter includes (1) values held by both groups of parents and (2) a comparison of pupils on basic components of the study. The statistical treatment follows the designations given in Chapter I and interpretations are based on reputable research available for use in this study.

Subject Selection.-- A adequate understanding of children often proves to be the key to an understanding of problems in later life. In the last few years there has been a trend away from speculation about children in public schools and parochial schools and toward research based on observation, testing, experimentation and statistical analyses.

Children with matched backgrounds were given a Questionnaire concerning their home life. After careful observation, conferences and
written results from the Questionnaire - thirty pupils were selected from Thomas Heathe Slater Public School and thirty pupils from Berean Seventh Day Adventist Junior Academy. Of the thirty pupils from each school the following results as shown in Table 1, page 34 were dominant. Sixty-three and one third percent from public schools rent some type home as compared to fifty-six and two thirds percent from the parochial school. Thirty-six and two thirds percent own homes in the public schools as compared to forty-three and one third percent owning homes in the parochial schools. A slightly higher percent, six and two thirds percent, own homes in the parochial school as compared to those in the public school.

The fathers' occupations show that in both schools three and one third percent have occupations in the skilled areas whereas the mothers' occupations show that ten percent more mothers have skilled occupations in the parochial school than in the public school.

There were four and one-third percent more fathers finishing college in the parochial school than in the public school. As for mothers, only three and one-third percent more finished college in parochial school than in public school.

Both schools had three and one-third percent parents making between $215.00 and $265.00 weekly incomes.

After finding these similarities of home life of pupils in the public school and in the parochial school, the writer thought it necessary to administer a Study of Values to parents of the pupils of both schools.
<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Public</th>
<th>N = 30</th>
<th>Parochial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rent Home</td>
<td>13.33</td>
<td>4</td>
<td>13.33</td>
</tr>
<tr>
<td>2. house</td>
<td>20.00</td>
<td>6</td>
<td>20.00</td>
</tr>
<tr>
<td>3. gov't. proj.</td>
<td>30.00</td>
<td>9</td>
<td>20.00</td>
</tr>
<tr>
<td>4. room</td>
<td>3.33</td>
<td>1</td>
<td>3.34</td>
</tr>
<tr>
<td>Own Home</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. under-5,000</td>
<td>10.00</td>
<td>3</td>
<td>13.00</td>
</tr>
<tr>
<td>2. 5,000-10,000</td>
<td>26.67</td>
<td>8</td>
<td>27.00</td>
</tr>
<tr>
<td>3. 10,000-15,000</td>
<td>100.00</td>
<td>30</td>
<td>3.33</td>
</tr>
<tr>
<td>4. Over-20,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. skilled</td>
<td>3.33</td>
<td>1</td>
<td>3.33</td>
</tr>
<tr>
<td>2. semi-skilled</td>
<td>20.00</td>
<td>6</td>
<td>36.67</td>
</tr>
<tr>
<td>3. unskilled</td>
<td>66.67</td>
<td>20</td>
<td>53.33</td>
</tr>
<tr>
<td>4. dec. and unk.</td>
<td>10.00</td>
<td>3</td>
<td>6.67</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. grade school</td>
<td>100.00</td>
<td>30</td>
<td>100.00</td>
</tr>
<tr>
<td>2. high school</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. college</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approx. Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. $35 -55</td>
<td>30.00</td>
<td>9</td>
<td>10.00</td>
</tr>
<tr>
<td>2. 65-85</td>
<td>30.00</td>
<td>9</td>
<td>26.67</td>
</tr>
<tr>
<td>3. 95-115</td>
<td>13.33</td>
<td>4</td>
<td>13.33</td>
</tr>
<tr>
<td>4. 125-145</td>
<td>20.00</td>
<td>6</td>
<td>26.67</td>
</tr>
<tr>
<td>5. 155-175</td>
<td>3.33</td>
<td>1</td>
<td>10.00</td>
</tr>
<tr>
<td>6. 185-205</td>
<td>3.34</td>
<td>1</td>
<td>10.00</td>
</tr>
<tr>
<td>7. 215-235</td>
<td>8. 245-265</td>
<td>1</td>
<td>3.33</td>
</tr>
</tbody>
</table>
Basic Information Regarding Values Held by Parents

The purpose of the Study of Values aims to measure the relative prominence of the six basic interests or motives in personality: the theoretical, economic, aesthetic, social, political and religious. The classification is based directly upon Edward Spranger's *Types of Men*, a brilliant work which defends the view that the personalities of men are best known through a study of their values or evaluative attitudes.

The Study of Values Test consists of a number of questions, based upon a variety of familiar situations to which two alternative answers (in Part I) and four alternative answers (in Part II) are provided. In all there are 120 answers, twenty of which refer to each of the six values.

Description and Comparison of Theoretical Values Held by Parents.—Table 2, page 37, shows comparative data on the theoretical values of the parents of the public and parochial school pupils. It may be noted there that the mean scores of 4.5 and 4.6 for the public school and parochial school mothers respectively, were strikingly close in value. Similarly,

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3 Ibid., p. 6.
the mean scores of \( U_3 \) and \( U_2 \) for the corresponding groups of fathers showed decisive closeness in average performances. The two sets of standard deviations and the corresponding standard errors of the means indicated considerable homogeneity in responses since the groups of mothers had standard deviations of 5, while the fathers had standard deviations of 3. All standard errors of the means were 1.

In comparison of theoretical values, the two groups were not significantly different. Since a score of \( U_0 \) is the average for any single value, the public and parochial school mothers and fathers were slightly above average with their range of mean scores from \( U_2 - U_6 \). It was noted, furthermore, that the computation of the significance of the difference between means yielded a "t" score of 0.59 for the mothers and 0.71 for the fathers. Both of these values are far below the "t" value of 2.002 required for significance at the .05 level of confidence.
TABLE 2

COMPARATIVE DATA ON THE THEORETICAL VALUES HELD BY PARENTS OF THE PUBLIC SCHOOL PUPILS AND THE PAROCHIAL SCHOOL PUPILS OF THE REVISED EDITION OF THE STUDY OF VALUES

<table>
<thead>
<tr>
<th>Groups</th>
<th>Value</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>M</th>
<th>M₁ - M₂</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public School Mothers</td>
<td>Theoretical</td>
<td>18</td>
<td>45</td>
<td>5</td>
<td>1</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.59*</td>
</tr>
<tr>
<td>Parochial School Mothers</td>
<td></td>
<td>15</td>
<td>46</td>
<td>5</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public School Fathers</td>
<td>Theoretical</td>
<td>9</td>
<td>43</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.71*</td>
</tr>
<tr>
<td>Parochial School Fathers</td>
<td></td>
<td>8</td>
<td>42</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Insignificant
Table 3, page 39, shows comparative data on the economic values of the parents of the public and parochial school pupils. It may be noted there that the mean scores of 39 and 42 for the public school and parochial school mothers, respectively, were more heterogeneous in value. However, the mean scores of 38 and 37 for the corresponding groups of fathers showed decisive closeness in average performances. The two sets of standard deviations and the corresponding standard errors of the means revealed more heterogeneity in responses since the groups of mothers had standard deviations of 7 and 5, while the fathers had standard deviations of 5 and 2. The standard errors of the means were 2 and 1 for the respective mothers and respective fathers of the public school and the same for the mothers and fathers of the parochial school.

In comparison of economic values, the two groups were not significantly different. Since a score of 40 is the average for any single value, the public school mothers and the public and parochial school fathers were slightly below average with their range of mean scores from 37 – 39. The parochial school mothers were slightly above average with a mean score of 42. It was noted, furthermore, that the computation of the significance of the difference between means yielded a "t" score of 1.50 for the mothers and .58 for the fathers. Both of these values are below the "t" value of 2.002 required for significance at the .05 level of confidence.
TABLE 3
COMPARATIVE DATA ON THE ECONOMIC VALUES HELD BY
PARENTS OF THE PUBLIC SCHOOL PUPILS AND THE
PAROCHIAL SCHOOL PUPILS OF THE REVISED
EDITION OF THE STUDY OF VALUES

<table>
<thead>
<tr>
<th>Groups</th>
<th>Value</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>M</th>
<th>M₁ - M₂</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public School Mothers</td>
<td>Economic</td>
<td>18</td>
<td>39</td>
<td>7</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Parochial School Mothers</td>
<td></td>
<td>15</td>
<td>42</td>
<td>5</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public School Fathers</td>
<td>Economic</td>
<td>9</td>
<td>38</td>
<td>5</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Parochial School Fathers</td>
<td></td>
<td>8</td>
<td>37</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Insignificant
Description and Comparison of Aesthetic Values Held by Parents.—

Table 4, page 41, shows data comparing the aesthetic values of the parents of the public and parochial school pupils. The mean scores of 35 and 33 for the public and parochial school mothers, respectively, revealed strikingly close values. Likewise, the mean scores of 34 and 33 for the corresponding groups of fathers showed decisive closeness in average performances. The two sets of standard deviations indicated considerable heterogeneity, since the respective mothers had standard deviations of 6 and 3 and the fathers' standard deviations were 6 and 7 respectively.

The standard errors of the means indicated marked homogeneity in responses since the groups of mothers had standard errors of the means of 1 and the fathers had standard errors of the means of 2.

In comparison of aesthetic values, the two groups were not significantly different. Since a score of 40 is the average for any single value, the public and parochial school mothers and fathers were slightly below average with their range of mean scores from 33 - 35. Computation of the significance of the difference between means yielded a "t" score of 1.17 for the mothers and .31 for the fathers. Both of these values are below the "t" value of 2.002 required for significance at the .05 level of confidence.
TABLE 4

COMPARATIVE DATA ON THE AESTHETIC VALUES HELD BY PARENTS OF THE PUBLIC SCHOOL PUPILS AND THE PAROCHIAL SCHOOL PUPILS OF THE REVISED EDITION OF THE STUDY OF VALUES

<table>
<thead>
<tr>
<th>Groups</th>
<th>Value</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>M</th>
<th>M1 - M2</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public School Mothers</td>
<td>Aesthetic</td>
<td>18</td>
<td>35</td>
<td>6</td>
<td>1</td>
<td>8</td>
<td>1.17*</td>
</tr>
<tr>
<td>Parochial School Mothers</td>
<td></td>
<td>15</td>
<td>33</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public School Fathers</td>
<td>Aesthetic</td>
<td>9</td>
<td>34</td>
<td>6</td>
<td>2</td>
<td>10</td>
<td>3.31*</td>
</tr>
<tr>
<td>Parochial School Fathers</td>
<td></td>
<td>8</td>
<td>33</td>
<td>7</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Insignificant
Description and Comparison of Social Values Held by Parents.

Table 5, page 43, shows comparative data on the social values of the parents of the public and parochial school pupils. It may be noted there that the mean scores of k2 and k3 for the public and parochial school mothers, respectively, were strikingly close in value. Similarly, the mean scores of k2 and k0 for the corresponding groups of fathers showed homogeneity in average performances. The two sets of standard deviations and the corresponding standard errors of the means indicated considerable homogeneity in responses since the groups of mothers had standard deviations of 3, while the fathers had standard deviations of 4 and 3, respectively. All standard errors of the means were 1.

In comparison of social values, the two groups were not significantly different. Since a score of k0 is the average for any single value, the public and parochial school mothers and fathers were average or slightly above with their range of mean scores from k0 - k3. It was noted that the computation of the significance of the difference between means yielded a "t" score of 1.00 for the mothers and 1.17 for the fathers. Both of these values are below the "t" value of 2.002 required for significance at the .05 level of confidence.
## TABLE 5

COMPARATIVE DATA ON THE SOCIAL VALUES HELD BY PARENTS OF THE PUBLIC SCHOOL PUPILS AND THE PAROCHIAL SCHOOL PUPILS OF THE REVISED EDITION OF THE STUDY OF VALUES

<table>
<thead>
<tr>
<th>Groups</th>
<th>Value</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>M</th>
<th>M₁ - M₂</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public School Mothers</td>
<td>Social</td>
<td>18</td>
<td>42</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>1.00*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parochial School Mothers</td>
<td></td>
<td>15</td>
<td>43</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public School Fathers</td>
<td>Social</td>
<td>9</td>
<td>42</td>
<td>4</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parochial School Fathers</td>
<td></td>
<td>8</td>
<td>40</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Insignificant
Description and Comparison of Political Values Held by Parents.

Table 6, page 45, shows data comparing political values of the parents of the public and parochial school pupils. It may be noted there that the mean scores of 40 and 38 for the public and parochial school mothers, respectively, were homogeneous in value. Likewise, the mean scores of 39 and 37 for the corresponding groups of fathers showed decisive closeness in average performances. The two sets of standard deviations and the corresponding standard errors of the means indicated considerable homogeneity in responses since the groups of mothers had standard deviations of 4 and 3, respectively, while the fathers had standard deviations of 6 and 5, respectively. The standard errors of the means for the mothers were 1 and the standard errors of the means for the fathers were 2.

In comparison of political values, the two groups were not significantly different. Since a score of 40 is the average for any single value, the public school mothers were average in their performance, while the parochial school mothers and the public and parochial school fathers were slightly below average with their range of mean scores from 37 - 39. It was revealed that the computation of the significance of the difference between means yielded a "t" score of 2.00 for the mothers and .76 for the fathers. Both of these values are below the "t" value of 2.002 required for significance at the .05 level of confidence.
TABLE 6


<table>
<thead>
<tr>
<th>Groups</th>
<th>Value</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>M</th>
<th>(\sqrt{\frac{N_1M_1^2 + N_2M_2^2}{N_1 + N_2 - 2}})</th>
<th>(M_1 - M_2)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public School Mothers</td>
<td>Political</td>
<td>18</td>
<td>40</td>
<td>4</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>2.00*</td>
</tr>
<tr>
<td>Parochial School Mothers</td>
<td></td>
<td>15</td>
<td>38</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public School Fathers</td>
<td>Political</td>
<td>9</td>
<td>39</td>
<td>6</td>
<td>2</td>
<td>8</td>
<td>2</td>
<td>.76*</td>
</tr>
<tr>
<td>Parochial School Fathers</td>
<td></td>
<td>8</td>
<td>37</td>
<td>5</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Insignificant
Description and Comparison of Religious Values Held by Parents.

Table 7, page 47, shows comparative data on the religious values of the parents of the public and parochial school pupils. It may be noted there that the mean scores of 45 and 42 for the public and parochial school mothers, respectively, were close in value. Similarly, the mean scores of 46 and 44 for the corresponding groups of fathers showed closeness in average performances. The two sets of standard deviations and the corresponding standard errors of the means indicated considerable homogeneity in responses since the groups of mothers had standard deviations of 6, while the fathers had standard deviations of 5 and 4 respectively. The standard error of the mean for the public school mothers was 1, while the standard errors of the means for the parochial school mothers and the public and parochial school fathers were 2.

In comparison of religious values, the two groups were not significantly different. Since a score of 40 is the average for any single value, the public and parochial school mothers and fathers were slightly above average with their range of mean scores from 42 - 46. It was noted, furthermore, that the computation of the significance of the difference between means yielded a "t" score of 1.50 for the mothers and .91 for the fathers. Both of these values are below the "t" value of 2.002 required for significance at the .05 level of confidence.
### TABLE 7

**COMPARATIVE DATA ON THE RELIGIOUS VALUES HELD BY PARENTS OF THE PUBLIC SCHOOL PUPILS AND THE PAROCHIAL SCHOOL PUPILS OF THE REVISED EDITION OF THE STUDY OF VALUES**

<table>
<thead>
<tr>
<th>Groups</th>
<th>Value</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>M</th>
<th>M1 - M2</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public School Mothers</td>
<td>Religious</td>
<td>18</td>
<td>45</td>
<td>6</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.50*</td>
<td></td>
</tr>
<tr>
<td>Parochial School Mothers</td>
<td></td>
<td>15</td>
<td>42</td>
<td>6</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public School Fathers</td>
<td>Religious</td>
<td>9</td>
<td>46</td>
<td>5</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7</td>
<td>2</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>.91</td>
<td></td>
</tr>
<tr>
<td>Parochial School Fathers</td>
<td></td>
<td>8</td>
<td>44</td>
<td>4</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Insignificant*
Comparison of Parents' Values with the National Norms on Basic Components of the Study. -- For the Study of Values, Tables 8 and 9 show how the local parents rate with the means of other parents.

There was very little difference between the means of the local females and the means of the national females in the Economic, Social, Political, and Religious Values held by the two groups.

There was very little difference between the means of the local males and the means of the national males in the Theoretical, Aesthetic, Social, and Political Values held by the two groups.
TABLE 8

COMPARATIVE DATA ON THE THEORETICAL, ECONOMIC, AESTHETIC, SOCIAL, POLITICAL AND RELIGIOUS VALUES OF THE LOCAL SCHOOL FEMALES AS RATED WITH THE NATIONAL NORMS OF FEMALES

<table>
<thead>
<tr>
<th>Traits</th>
<th>Theoretical</th>
<th>Economic</th>
<th>Aesthetic</th>
<th>Social</th>
<th>Political</th>
<th>Religious</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Female Mean</td>
<td>45.50</td>
<td>40.50</td>
<td>34.00</td>
<td>42.50</td>
<td>39.00</td>
<td>43.50</td>
</tr>
<tr>
<td>National Female Mean</td>
<td>36.36</td>
<td>38.78</td>
<td>42.22</td>
<td>41.26</td>
<td>38.13</td>
<td>43.24</td>
</tr>
</tbody>
</table>

TABLE 9

COMPARATIVE DATA ON THE THEORETICAL, ECONOMIC, AESTHETIC, SOCIAL, POLITICAL AND RELIGIOUS VALUES OF THE LOCAL SCHOOL MALES AS RATED WITH THE NATIONAL NORMS OF MALES

<table>
<thead>
<tr>
<th>Traits</th>
<th>Theoretical</th>
<th>Economic</th>
<th>Aesthetic</th>
<th>Social</th>
<th>Political</th>
<th>Religious</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Male Mean</td>
<td>42.50</td>
<td>35.00</td>
<td>33.50</td>
<td>41.00</td>
<td>38.00</td>
<td>45.00</td>
</tr>
<tr>
<td>National Male Mean</td>
<td>43.29</td>
<td>42.12</td>
<td>37.20</td>
<td>37.70</td>
<td>42.70</td>
<td>37.01</td>
</tr>
</tbody>
</table>
Comparison of Pupils on Basic Components of the Study

Results from use of the Pupil Adjustment Inventory.-- One of the highest levels of social adjustment is understanding the other person. Such adjustments involve more than the mere passive ability to keep out of difficulties with other people; one needs to learn to understand people and, through this knowledge become master of social situations. The emotional behavior of children plays a large part in their adjustment.

Table 10 shows the characteristics of the Pupil Adjustment Inventory on which the public school pupils and the parochial school pupils were rated and the percentages.

The characteristics of the Pupil Adjustment Inventory are as follows:

A. Academic
   1. Chronological age at grade
   2. Achievement as related to aptitude
   3. Attitude toward school work

B. Social
   1. Sociability
   2. Social Acceptance
   3. Types of associates

C. Emotional
   1. Temperament
   2. Personal worth

D. Physical
   1. State of health

E. Activities and Interests
   1. Activities and interests
   2. Attitudes toward school
   3. School attendance
F. School's Influence upon Pupil

G. Home Background
   1. Economic status
   2. Family life

The pupils of the public and parochial schools were average or above as to chronological age at their grade level. Nine pupils or 30 percent in the public school rated below average in achievement as related to aptitude in comparison with ten or 33 percent in the parochial school pupils. The public school pupils were average or above as related to attitude toward schoolwork, whereas, ten or 33 percent of the parochial school pupils were below average.

There were no pupils in the public school rating below average under social traits. Five or 17 percent of the parochial school pupils were below average as related to sociability, eight pupils or 27 percent were below average as related to social acceptance, and two pupils or 7 percent were below average as related to types of associates.

One public school pupil rated below average as related to temperament, and four pupils or 13 percent of the parochial school were below average. In relation to personal worth, one public school pupil and nine parochial school pupils or 30 percent rated below average.

There were no public school pupils rating below average on the physical trait. One parochial school pupil or 3 percent rated below average.

The public school pupils were average or above on the traits under activities and interests. Two parochial school pupils or 7 percent rated below average on the trait of activities and interests, one pupil or 3 percent was below average on the trait of attitude toward school and four
pupils or 3 percent were below average on the trait of school attendance.

There were no public school pupils who rated below average on the trait of school's influence upon the pupil whereas, ten parochial school pupils or 33 percent rated below average.

The public school pupils were average or above on the traits under home background. Three parochial school pupils or 10 percent were below average as related to economic status and two pupils or 7 percent were below average as related to family life.

Table 10 shows similarities and differences in characteristics of the thirty pupils of the public school and the thirty pupils of the parochial school.

Figures 1 and 2 show profiles of the Pupil Adjustment Inventory of the thirty pupils of the public school and the thirty pupils of the parochial school.

Comparison of Pupils on Basic Components of the Study with the National Norms.-- The Pupil Adjustment Inventory has no means of comparing local pupils with national norms or means. This is because the Inventory is particularly useful in assisting teachers to work with each new group of pupils they usually meet at the beginning of a school year. It also enables each person to rate the pupil on the same characteristics, thereby making comparisons and summarizations of ratings simple in a case study.
### TABLE 10

RESULTS OF PUBLIC AND PAROCHIAL SCHOOL PUPILS' RATINGS

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Public School</th>
<th></th>
<th></th>
<th>Parochial School</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below Average</td>
<td>Average</td>
<td>Good</td>
<td>Total</td>
<td>Below Average</td>
<td>Average</td>
</tr>
<tr>
<td><strong>Academic</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Chronological age at grade</td>
<td>100%</td>
<td></td>
<td></td>
<td>100%</td>
<td>90%</td>
<td>10%</td>
</tr>
<tr>
<td>2. Achievement as related to aptitude</td>
<td>30%</td>
<td>33%</td>
<td>37%</td>
<td>100%</td>
<td>40%</td>
<td>27%</td>
</tr>
<tr>
<td>3. Attitude toward school work</td>
<td>80%</td>
<td>20%</td>
<td>100%</td>
<td>33%</td>
<td>40%</td>
<td>27%</td>
</tr>
<tr>
<td><strong>Social</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Sociability</td>
<td>85%</td>
<td>17%</td>
<td>100%</td>
<td>17%</td>
<td>60%</td>
<td>23%</td>
</tr>
<tr>
<td>2. Social acceptance</td>
<td>77%</td>
<td>23%</td>
<td>100%</td>
<td>27%</td>
<td>63%</td>
<td>10%</td>
</tr>
<tr>
<td>3. Types of associates</td>
<td>17%</td>
<td>83%</td>
<td>100%</td>
<td>7%</td>
<td>3%</td>
<td>90%</td>
</tr>
<tr>
<td><strong>Emotional</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Temperament</td>
<td>3%</td>
<td>74%</td>
<td>23%</td>
<td>100%</td>
<td>13%</td>
<td>70%</td>
</tr>
<tr>
<td>2. Personal worth</td>
<td>3%</td>
<td>64%</td>
<td>33%</td>
<td>100%</td>
<td>30%</td>
<td>47%</td>
</tr>
<tr>
<td><strong>Physical</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. State of health</td>
<td>70%</td>
<td>30%</td>
<td>100%</td>
<td>3%</td>
<td>90%</td>
<td>7%</td>
</tr>
<tr>
<td><strong>Activities and Interests</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Activities and interests</td>
<td>77%</td>
<td>23%</td>
<td>100%</td>
<td>7%</td>
<td>83%</td>
<td>10%</td>
</tr>
<tr>
<td>2. Attitude toward school</td>
<td>47%</td>
<td>53%</td>
<td>100%</td>
<td>3%</td>
<td>70%</td>
<td>27%</td>
</tr>
<tr>
<td>3. School attendance</td>
<td>43%</td>
<td>57%</td>
<td>100%</td>
<td>13%</td>
<td>47%</td>
<td>40%</td>
</tr>
<tr>
<td><strong>School's Influence Upon Pupil</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Economic Status</td>
<td>50%</td>
<td>50%</td>
<td>100%</td>
<td>10%</td>
<td>80%</td>
<td>10%</td>
</tr>
<tr>
<td>2. Family Life</td>
<td>47%</td>
<td>53%</td>
<td>100%</td>
<td>7%</td>
<td>53%</td>
<td>40%</td>
</tr>
</tbody>
</table>
FIGURE 1

PROFILE SHOWING PUBLIC SCHOOL PUPILS' RATINGS ON PUPIL ADJUSTMENT INVENTORY

<table>
<thead>
<tr>
<th>Traits</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic</strong></td>
<td></td>
</tr>
<tr>
<td>1. Chronological age at grade</td>
<td></td>
</tr>
<tr>
<td>2. Achievement related to aptitude</td>
<td></td>
</tr>
<tr>
<td>3. Attitude toward school work</td>
<td></td>
</tr>
<tr>
<td><strong>Social</strong></td>
<td></td>
</tr>
<tr>
<td>1. Sociability</td>
<td></td>
</tr>
<tr>
<td>2. Social acceptance</td>
<td></td>
</tr>
<tr>
<td>3. Types of associates</td>
<td></td>
</tr>
<tr>
<td><strong>Emotional</strong></td>
<td></td>
</tr>
<tr>
<td>1. Temperament</td>
<td></td>
</tr>
<tr>
<td>2. Personal worth</td>
<td></td>
</tr>
<tr>
<td><strong>Physical</strong></td>
<td></td>
</tr>
<tr>
<td>1. State of health</td>
<td></td>
</tr>
<tr>
<td><strong>Activities and Interest</strong></td>
<td></td>
</tr>
<tr>
<td>1. Activities and interest</td>
<td></td>
</tr>
<tr>
<td>2. Attitude toward school</td>
<td></td>
</tr>
<tr>
<td>3. School attendance</td>
<td></td>
</tr>
<tr>
<td><strong>School's Influence Upon Pupil</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Home Background</strong></td>
<td></td>
</tr>
<tr>
<td>1. Economic status</td>
<td></td>
</tr>
<tr>
<td>2. Family life</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Below Average</th>
<th>Average</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
<th>30</th>
</tr>
</thead>
</table>
FIGURE 2
PROFILE SHOWING PAROCHIAL SCHOOL PUPILS' RATINGS ON
PUPIL ADJUSTMENT INVENTORY

Traits | Percentages

--- | ---

Academic
1. Chronological age at grade
2. Achievement related to aptitude
3. Attitude toward school work

Social
1. Sociability
2. Social acceptance
3. Types of associates

Emotional
1. Temperament
2. Personal worth

Physical
1. State of health

Activities and Interest
1. Activities and interest
2. Attitude toward school
3. School attendance

School's Influence Upon Pupil

Home Background
1. Economic status
2. Family life

Below Average | Average | Good
Results and Comparisons of Performances on the Lorge-Thorndike Intelligence Test (Verbal and Nonverbal Batteries).— After getting thirty pupils from the parochial school and thirty from a public school with matched backgrounds, the writer administered the Lorge-Thorndike Intelligence Test, (Verbal and Nonverbal Batteries). Tables 11 and 12 show results on the Lorge-Thorndike Intelligence Test (Verbal Battery) obtained by the thirty pupils from the public school and the thirty pupils from the parochial school.

In comparison, the respective groups had means of 90 and 102, medians of 91 and 100, standard deviations of 9 and 17 and standard errors of the means of 2 and 3. Inspection of both sets of scores indicated that the two groups were fairly normal in verbal intelligence test performances since the means fell between 82 and 116. The respective means indicated at least an average intelligence.

Tables 13 and 14 show results from the Nonverbal Battery of the Lorge-Thorndike Test. The respective groups (public and parochial) had means of 92 and 94, medians of 93 and 90, standard deviations of 8 and 15 and standard errors of the means of 1 and 3. Inspection of both sets of scores indicated that the two groups were fairly normal in distribution of nonverbal intelligence test performances since the means fell between 84 and 116. The respective means indicated at least an average intelligence level.
### TABLE 11

INTELLIGENCE QUOTIENTS OF THIRTY PUPILS IN A PUBLIC SCHOOL
ON THE LORGE–THORNDIKE INTELLIGENCE TEST

**VERBAL BATTERY**

<table>
<thead>
<tr>
<th>Score Group</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>108 - 110</td>
<td>2</td>
</tr>
<tr>
<td>105 - 107</td>
<td>1</td>
</tr>
<tr>
<td>102 - 104</td>
<td>1</td>
</tr>
<tr>
<td>99 - 101</td>
<td>1</td>
</tr>
<tr>
<td>96 - 98</td>
<td>2</td>
</tr>
<tr>
<td>93 - 95</td>
<td>4</td>
</tr>
<tr>
<td>90 - 92</td>
<td>7</td>
</tr>
<tr>
<td>87 - 89</td>
<td>1</td>
</tr>
<tr>
<td>84 - 86</td>
<td>2</td>
</tr>
<tr>
<td>81 - 83</td>
<td>3</td>
</tr>
<tr>
<td>78 - 80</td>
<td>3</td>
</tr>
<tr>
<td>75 - 77</td>
<td>3</td>
</tr>
</tbody>
</table>

| N           | 30        |

**Mean** 90  
**Median** 91  
**σ** 9  
**σ_M** 2
### TABLE 12
INTELLIGENCE QUOTIENTS OF THIRTY PUPILS IN A PAROCHIAL SCHOOL
ON THE LORGE-THORNDIKE INTELLIGENCE TEST
VERBAL BATTERY

<table>
<thead>
<tr>
<th>Score Group</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>135 - 139</td>
<td>1</td>
</tr>
<tr>
<td>130 - 134</td>
<td>2</td>
</tr>
<tr>
<td>125 - 129</td>
<td>1</td>
</tr>
<tr>
<td>120 - 124</td>
<td>1</td>
</tr>
<tr>
<td>115 - 119</td>
<td>2</td>
</tr>
<tr>
<td>110 - 114</td>
<td>3</td>
</tr>
<tr>
<td>105 - 109</td>
<td>3</td>
</tr>
<tr>
<td>100 - 104</td>
<td>2</td>
</tr>
<tr>
<td>95 - 99</td>
<td>2</td>
</tr>
<tr>
<td>90 - 94</td>
<td>2</td>
</tr>
<tr>
<td>85 - 89</td>
<td>7</td>
</tr>
<tr>
<td>80 - 84</td>
<td>4</td>
</tr>
</tbody>
</table>

| N          | 30        |

Mean: 102  
Median: 100  
σ: 17  
σM: 3
### TABLE 13

INTELLIGENCE QUOTIENTS OF THIRTY PUPILS IN A PUBLIC SCHOOL ON THE LORGE-THORNDIKE INTELLIGENCE TEST NONVERBAL BATTERY

<table>
<thead>
<tr>
<th>Score Group</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>102 - 104</td>
<td>2</td>
</tr>
<tr>
<td>99 - 101</td>
<td>6</td>
</tr>
<tr>
<td>96 - 98</td>
<td>4</td>
</tr>
<tr>
<td>93 - 95</td>
<td>3</td>
</tr>
<tr>
<td>90 - 92</td>
<td>4</td>
</tr>
<tr>
<td>87 - 89</td>
<td>5</td>
</tr>
<tr>
<td>84 - 86</td>
<td>1</td>
</tr>
<tr>
<td>81 - 83</td>
<td>1</td>
</tr>
<tr>
<td>78 - 80</td>
<td>1</td>
</tr>
<tr>
<td>75 - 77</td>
<td>1</td>
</tr>
<tr>
<td>72 - 74</td>
<td>1</td>
</tr>
<tr>
<td>69 - 71</td>
<td>1</td>
</tr>
</tbody>
</table>

**N** 30

Mean 92

Median 93

$sigma$ 8

$sigma M$ 1

-59-
### TABLE 14

INTELLIGENCE QUOTIENTS OF THIRTY PUPILS IN A PAROCHIAL SCHOOL
ON THE LORGE-THORNDIKE INTELLIGENCE TEST
NONVERBAL BATTERY

<table>
<thead>
<tr>
<th>Score Group</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>130 - 134</td>
<td>1</td>
</tr>
<tr>
<td>125 - 129</td>
<td>1</td>
</tr>
<tr>
<td>120 - 124</td>
<td>1</td>
</tr>
<tr>
<td>115 - 119</td>
<td>1</td>
</tr>
<tr>
<td>110 - 114</td>
<td>1</td>
</tr>
<tr>
<td>105 - 109</td>
<td>3</td>
</tr>
<tr>
<td>100 - 104</td>
<td>1</td>
</tr>
<tr>
<td>95 - 99</td>
<td>2</td>
</tr>
<tr>
<td>90 - 94</td>
<td>4</td>
</tr>
<tr>
<td>85 - 89</td>
<td>6</td>
</tr>
<tr>
<td>80 - 84</td>
<td>4</td>
</tr>
<tr>
<td>75 - 79</td>
<td>3</td>
</tr>
<tr>
<td>70 - 74</td>
<td>2</td>
</tr>
</tbody>
</table>

**N** 30

**Mean** 94

**Median** 90

**σ** 15

**σM** 3
Tables 15 and 16 show data concerning the significance of the difference between the thirty pupils of the public school and the thirty pupils of the parochial school on the Verbal and Nonverbal Batteries of the Lorge-Thorndike Test. The respective means of 90, 102, 92 and 94 indicated that the two groups were of average intelligence since the means fell between 82 and 116.

A "t" score of .67 on the nonverbal battery revealed insignificant difference, whereas, a "t" score of 3.33 on the verbal battery revealed significant difference.

The standard deviation on the verbal battery for the public school pupils was 9 while the standard deviation for the parochial school pupils was 17. The standard error of the difference of the means was 20 and the difference between the means was 12.

The standard deviation on the nonverbal battery for the public school pupils was 8 and the standard deviation for the parochial school pupils was 15. The standard error of the difference of the means was 15 and the difference between the means was 2.
TABLE 15

DATA CONCERNING THE SIGNIFICANCE OF THE DIFFERENCE BETWEEN THIRTY PUBLIC SCHOOL PUPILS AND THIRTY PAROCHIAL SCHOOL PUPILS ON THE VERBAL BATTERY OF THE LORGE–THORNDIKE INTELLIGENCE TEST

<table>
<thead>
<tr>
<th>Groups</th>
<th>Test</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>$M_1 - M_2$</th>
<th>$t$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public School Pupils</td>
<td>Lorge-Thorndike</td>
<td>30</td>
<td>90</td>
<td>9</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Verbal</td>
<td>30</td>
<td>102</td>
<td>17</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Parochial School Pupils</td>
<td>Battery</td>
<td>30</td>
<td>102</td>
<td>17</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

*Significant
TABLE 16

DATA CONCERNING THE SIGNIFICANCE OF THE DIFFERENCE BETWEEN THIRTY PUBLIC SCHOOL PUPILS AND THIRTY PAROCHIAL SCHOOL PUPILS ON THE NONVERBAL BATTERY OF THE LORGE-THORNDIKE INTELLIGENCE TEST

<table>
<thead>
<tr>
<th>Groups</th>
<th>Test</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>M</th>
<th>M₁ - M₂</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public School Pupils</td>
<td>Lorge - Thorndike Nonverbal Battery</td>
<td>30</td>
<td>92</td>
<td>8</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parochial School Pupils</td>
<td></td>
<td>30</td>
<td>94</td>
<td>15</td>
<td>3</td>
<td>15</td>
<td>2</td>
</tr>
</tbody>
</table>

*Insignificant
Comparison of Pupils on Basic Components of the Study with the National Norms.— Lorge-Thorndike I. Q.'s may be interpreted within the following framework. About 68 percent of all I. Q. scores will fall between I. Q.'s of 82 and 116 (about 2 out of 3). About 14 percent will fall between I. Q. scores of 68 and 84, about 14 percent between 116 and 132, and only 2 percent will fall below 68 or 2 percent above 132.¹

Table 17 gives a picture of the percentages of national norms as compared with the local, public and parochial school pupils. On the Nonverbal Battery of the Lorge-Thorndike Intelligence Test the respective groups compare with the norms as follows: 16 percent and 60 percent fell between 84 and 116 and 84 percent and 30 percent fell between 68 and 84, 6 percent of the parochial school pupils fell between 116 and 132 and 4 percent fell above 132.

The Verbal Battery showed the following for the respective groups: 70 percent and 13 percent fell between 84 and 116 and 30 percent and 70 percent fell between 68 and 84, 13 percent of the parochial school pupils fell between 116 and 132 and 4 percent fell above 132.

According to the Intelligence Quotients of Lorge-Thorndike and their percentages, the two groups fell below the norms on the Verbal and Nonverbal Batteries in the areas 84 and 116, 68 and 84 and 116 and 132. The parochial school pupils were above the norms on both batteries in the area above 132.

<table>
<thead>
<tr>
<th>Scores</th>
<th>Below 68</th>
<th>68 - 84</th>
<th>84 - 116</th>
<th>116 - 132</th>
<th>Above 132</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonverbal Percentages of Public School Pupils</td>
<td>0</td>
<td>64%</td>
<td>16%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Nonverbal Percentages of Parochial School Pupils</td>
<td>0</td>
<td>30%</td>
<td>60%</td>
<td>6%</td>
<td>4%</td>
</tr>
<tr>
<td>Verbal Percentages of Public School Pupils</td>
<td>0</td>
<td>30%</td>
<td>70%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Verbal Percentages of Parochial School Pupils</td>
<td>0</td>
<td>70%</td>
<td>13%</td>
<td>13%</td>
<td>4%</td>
</tr>
<tr>
<td>National Percentages</td>
<td>2%</td>
<td>14%</td>
<td>68%</td>
<td>14%</td>
<td>2%</td>
</tr>
</tbody>
</table>
Results of Performances on the STEP Tests.— The thirty pupils from the public school and the thirty pupils from the parochial were given the following STEP Tests: Listening Comprehension, Reading Comprehension, Science, Mathematics and Social Studies.

Tables 18 and 19 show the Scaled Scores Obtained by thirty pupils in a public school and thirty in a parochial school on the STEP Listening Test.

In comparison, the public school pupils and the parochial school pupils revealed the following, respectively: a mean of 262 and 260; a median of 263 and 258; a standard deviation of 9 and 11; and a standard error of the mean of 2 for both groups.

Inspection of both sets of scores indicated that the two groups were fairly normal in their performance on the STEP Listening Test. The respective medians were 263 and 258 as compared with the fifth grade national median of 269.

Tables 20 and 21 show the Scaled Scores Obtained by thirty pupils in a public school and thirty in a parochial school on the STEP Reading Test.

The public school pupils and the parochial school pupils performed respectively in the following way: a mean of 257 and 251; a median of 258 and 251; a standard deviation of 11 and 13 and a standard error of the mean of 2 for both groups.

Inspection of both sets of scores indicated that the two groups were fairly normal in their performance on the STEP Reading Test. The respective means were 257 and 251 as compared with the national mean of 255. The respective medians were 258 and 251 as compared with the national fifth grade median of 257.
TABLE 18

SCALED STEP LISTENING TEST SCORES OBTAINED BY THIRTY PUPILS IN A PUBLIC SCHOOL

<table>
<thead>
<tr>
<th>Score Group</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>279 - 281</td>
<td>1</td>
</tr>
<tr>
<td>276 - 278</td>
<td>1</td>
</tr>
<tr>
<td>273 - 275</td>
<td>3</td>
</tr>
<tr>
<td>270 - 272</td>
<td>2</td>
</tr>
<tr>
<td>267 - 269</td>
<td>2</td>
</tr>
<tr>
<td>264 - 266</td>
<td>5</td>
</tr>
<tr>
<td>261 - 263</td>
<td>6</td>
</tr>
<tr>
<td>258 - 260</td>
<td>1</td>
</tr>
<tr>
<td>255 - 257</td>
<td>4</td>
</tr>
<tr>
<td>252 - 254</td>
<td>1</td>
</tr>
<tr>
<td>249 - 251</td>
<td>1</td>
</tr>
<tr>
<td>246 - 248</td>
<td>1</td>
</tr>
<tr>
<td>243 - 245</td>
<td>1</td>
</tr>
<tr>
<td>240 - 242</td>
<td>1</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>

Mean 262
Median 263
\( \sigma \)
\( \sigma_M \)

9
2
### Table 19

Scaled Step Listening Test Scores Obtained by Thirty Pupils in a Parochial School

<table>
<thead>
<tr>
<th>Score Group</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>279 - 281</td>
<td>2</td>
</tr>
<tr>
<td>276 - 278</td>
<td>1</td>
</tr>
<tr>
<td>273 - 275</td>
<td>2</td>
</tr>
<tr>
<td>270 - 272</td>
<td>1</td>
</tr>
<tr>
<td>267 - 269</td>
<td>5</td>
</tr>
<tr>
<td>264 - 266</td>
<td>1</td>
</tr>
<tr>
<td>261 - 263</td>
<td>2</td>
</tr>
<tr>
<td>258 - 260</td>
<td>1</td>
</tr>
<tr>
<td>255 - 257</td>
<td>1</td>
</tr>
<tr>
<td>252 - 254</td>
<td>5</td>
</tr>
<tr>
<td>249 - 251</td>
<td>4</td>
</tr>
<tr>
<td>246 - 248</td>
<td>3</td>
</tr>
<tr>
<td>243 - 245</td>
<td>2</td>
</tr>
</tbody>
</table>

| N            | 30         |

| Mean         | 260        |
| Median       | 258        |
| \( \sigma \) | 11         |
| \( \sigma_M \) | 2         |
TABLE 20

SCALED STEP READING TEST SCORES OBTAINED BY THIRTY PUPILS IN A PUBLIC SCHOOL

<table>
<thead>
<tr>
<th>Score Group</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>276 - 279</td>
<td>1</td>
</tr>
<tr>
<td>272 - 275</td>
<td>2</td>
</tr>
<tr>
<td>268 - 271</td>
<td>4</td>
</tr>
<tr>
<td>264 - 267</td>
<td>4</td>
</tr>
<tr>
<td>260 - 263</td>
<td>3</td>
</tr>
<tr>
<td>256 - 259</td>
<td>2</td>
</tr>
<tr>
<td>252 - 255</td>
<td>2</td>
</tr>
<tr>
<td>248 - 251</td>
<td>3</td>
</tr>
<tr>
<td>244 - 247</td>
<td>6</td>
</tr>
<tr>
<td>240 - 243</td>
<td>1</td>
</tr>
<tr>
<td>236 - 239</td>
<td>2</td>
</tr>
</tbody>
</table>

N 30

Mean 257
Median 258
\( \sigma \) 11
\( \sigma_m \) 2

-69-
TABLE 21

SCALED STEP READING TEST SCORES OBTAINED BY THIRTY PUPILS
IN A PAROCHIAL SCHOOL

<table>
<thead>
<tr>
<th>Score Group</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>280 - 284</td>
<td>1</td>
</tr>
<tr>
<td>275 - 279</td>
<td>1</td>
</tr>
<tr>
<td>270 - 274</td>
<td>1</td>
</tr>
<tr>
<td>265 - 269</td>
<td>2</td>
</tr>
<tr>
<td>260 - 264</td>
<td>3</td>
</tr>
<tr>
<td>255 - 259</td>
<td>5</td>
</tr>
<tr>
<td>250 - 254</td>
<td>3</td>
</tr>
<tr>
<td>245 - 249</td>
<td>3</td>
</tr>
<tr>
<td>240 - 244</td>
<td>5</td>
</tr>
<tr>
<td>235 - 239</td>
<td>2</td>
</tr>
<tr>
<td>230 - 234</td>
<td>3</td>
</tr>
<tr>
<td>225 - 229</td>
<td>1</td>
</tr>
</tbody>
</table>

N = 30

Mean = 251
Median = 251
σ = 13
σ_M = 2
Tables 22 and 23 show the Scaled Scores Obtained by thirty pupils in a public school and thirty in a parochial school on the STEP Science Test. The insignificant difference was revealed for the public school pupils and the parochial school pupils, respectively, with a mean of 253 and 248; a median of 253 and 250; a standard deviation of 8 and 12 and a standard error of the mean of 1 and 2.

Inspection of both sets of scores indicated that the two groups were fairly normal in their performance on the STEP Science Test. The respective means were 253 and 248 as compared with the national school norm of 254. The respective medians were 253 and 250 as compared with the national fifth grade median of 259.

Tables 24 and 25 show the Scaled Scores Obtained by thirty pupils in a public school and thirty in a parochial school on the STEP Mathematics Test. Comparison of the public school pupils and the parochial school pupils showed significant difference in favor of the parochial school pupils. Respectively, the following was revealed: a mean of 246 and 240; a median of 245 and 238; a standard deviation of 7 and 8 and a standard error of the mean of 1.

Inspection of both sets of scores indicated that the public and parochial groups were fairly normal in their performance on the STEP Mathematics Test. The respective means were 246 and 240 as compared with the national school mean of 249. The respective medians were 245 and 238 as compared with the national fifth grade median of 251.

Tables 26 and 27 show the Scaled Scores Obtained by thirty pupils in a public school and thirty in a parochial school on the STEP Social
Studies Test. Respectively, the public school pupils and the parochial school pupils revealed the following: a mean of 250 and 248; a median of 250 and 245; a standard deviation of 7 and 8 and a standard error of the mean of 1.

Inspection of both sets of scores indicated that the public and parochial groups were fairly normal in their performance on the STEP Social Studies Test. The respective means were 250 and 248 as compared with the national school mean of 251. The respective medians were 250 and 245 as compared with the national fifth grade median of 253.
TABLE 22

SCALED STEP SCIENCE TEST SCORES OBTAINED BY THIRTY PUPILS IN A PUBLIC SCHOOL

<table>
<thead>
<tr>
<th>Score Group</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>270 - 272</td>
<td>1</td>
</tr>
<tr>
<td>267 - 269</td>
<td>1</td>
</tr>
<tr>
<td>264 - 266</td>
<td>1</td>
</tr>
<tr>
<td>261 - 263</td>
<td>1</td>
</tr>
<tr>
<td>258 - 260</td>
<td>4</td>
</tr>
<tr>
<td>255 - 257</td>
<td>4</td>
</tr>
<tr>
<td>252 - 254</td>
<td>5</td>
</tr>
<tr>
<td>249 - 251</td>
<td>3</td>
</tr>
<tr>
<td>246 - 248</td>
<td>4</td>
</tr>
<tr>
<td>243 - 245</td>
<td>3</td>
</tr>
<tr>
<td>240 - 242</td>
<td>1</td>
</tr>
<tr>
<td>237 - 239</td>
<td>1</td>
</tr>
<tr>
<td>234 - 236</td>
<td>1</td>
</tr>
</tbody>
</table>

\[ N = 30 \]

Mean 253
Median 253
\[ \sigma = 8 \]
\[ \sigma_M = 1 \]
### TABLE 23

**SCALED STEP SCIENCE TEST SCORES OBTAINED BY THIRTY PUPILS IN A PAROCHIAL SCHOOL**

<table>
<thead>
<tr>
<th>Score Group</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>275 - 279</td>
<td>1</td>
</tr>
<tr>
<td>270 - 274</td>
<td>1</td>
</tr>
<tr>
<td>265 - 269</td>
<td>1</td>
</tr>
<tr>
<td>260 - 264</td>
<td>2</td>
</tr>
<tr>
<td>255 - 259</td>
<td>3</td>
</tr>
<tr>
<td>250 - 254</td>
<td>7</td>
</tr>
<tr>
<td>245 - 249</td>
<td>3</td>
</tr>
<tr>
<td>240 - 244</td>
<td>3</td>
</tr>
<tr>
<td>235 - 239</td>
<td>5</td>
</tr>
<tr>
<td>230 - 234</td>
<td>2</td>
</tr>
<tr>
<td>225 - 229</td>
<td>1</td>
</tr>
<tr>
<td>220 - 224</td>
<td>1</td>
</tr>
</tbody>
</table>

---

**N** 30

- **Mean**: 248
- **Median**: 250
- **σ**: 12
- **σN**: 2
TABLE 24

SCALED STEP MATHEMATICS TEST SCORES OBTAINED BY THIRTY PUPILS IN A PUBLIC SCHOOL

<table>
<thead>
<tr>
<th>Score Group</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>258 - 260</td>
<td>..</td>
</tr>
<tr>
<td>255 - 257</td>
<td>..</td>
</tr>
<tr>
<td>252 - 254</td>
<td>..</td>
</tr>
<tr>
<td>249 - 251</td>
<td>..</td>
</tr>
<tr>
<td>246 - 248</td>
<td>..</td>
</tr>
<tr>
<td>243 - 245</td>
<td>..</td>
</tr>
<tr>
<td>240 - 242</td>
<td>..</td>
</tr>
<tr>
<td>237 - 239</td>
<td>..</td>
</tr>
<tr>
<td>234 - 236</td>
<td>..</td>
</tr>
<tr>
<td>231 - 233</td>
<td>..</td>
</tr>
</tbody>
</table>

N 30

Mean 246
Median 245

\[ \sigma = 7 \]

\[ \sigma' = 1 \]
### TABLE 25

**SCALED STEP MATHEMATICS TEST SCORES OBTAINED BY THIRTY PUPILS IN A PAROCHIAL SCHOOL**

<table>
<thead>
<tr>
<th>Score Group</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>256 - 257</td>
<td>2</td>
</tr>
<tr>
<td>254 - 255</td>
<td>1</td>
</tr>
<tr>
<td>252 - 253</td>
<td>1</td>
</tr>
<tr>
<td>250 - 251</td>
<td>1</td>
</tr>
<tr>
<td>248 - 249</td>
<td>1</td>
</tr>
<tr>
<td>246 - 247</td>
<td>3</td>
</tr>
<tr>
<td>244 - 245</td>
<td>1</td>
</tr>
<tr>
<td>242 - 243</td>
<td>2</td>
</tr>
<tr>
<td>240 - 241</td>
<td>3</td>
</tr>
<tr>
<td>238 - 239</td>
<td>3</td>
</tr>
<tr>
<td>236 - 237</td>
<td>2</td>
</tr>
<tr>
<td>234 - 235</td>
<td>1</td>
</tr>
<tr>
<td>232 - 233</td>
<td>2</td>
</tr>
<tr>
<td>230 - 231</td>
<td>7</td>
</tr>
</tbody>
</table>

| N            | 30        |

**Mean** 240  
**Median** 238

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$\sigma$</td>
<td>8</td>
</tr>
<tr>
<td>$\sigma_M$</td>
<td>1</td>
</tr>
</tbody>
</table>

-76-
TABLE 26

SCALED STEP SOCIAL STUDIES TEST SCORES OBTAINED BY THIRTY PUPILS
IN A PUBLIC SCHOOL

<table>
<thead>
<tr>
<th>Score Group</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>264 - 266</td>
<td>1</td>
</tr>
<tr>
<td>261 - 263</td>
<td>1</td>
</tr>
<tr>
<td>258 - 260</td>
<td>2</td>
</tr>
<tr>
<td>255 - 257</td>
<td>4</td>
</tr>
<tr>
<td>252 - 254</td>
<td>5</td>
</tr>
<tr>
<td>249 - 251</td>
<td>4</td>
</tr>
<tr>
<td>246 - 248</td>
<td>4</td>
</tr>
<tr>
<td>243 - 245</td>
<td>4</td>
</tr>
<tr>
<td>240 - 242</td>
<td>2</td>
</tr>
<tr>
<td>237 - 239</td>
<td>1</td>
</tr>
<tr>
<td>234 - 236</td>
<td>2</td>
</tr>
</tbody>
</table>

N 30

Mean 250
Median 250
σ 7
σ_M 1
<table>
<thead>
<tr>
<th>Score Group</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>267 - 269</td>
<td>1</td>
</tr>
<tr>
<td>264 - 266</td>
<td>1</td>
</tr>
<tr>
<td>261 - 263</td>
<td>1</td>
</tr>
<tr>
<td>258 - 260</td>
<td>1</td>
</tr>
<tr>
<td>255 - 257</td>
<td>1</td>
</tr>
<tr>
<td>252 - 254</td>
<td>1</td>
</tr>
<tr>
<td>249 - 251</td>
<td>5</td>
</tr>
<tr>
<td>246 - 248</td>
<td>3</td>
</tr>
<tr>
<td>243 - 245</td>
<td>5</td>
</tr>
<tr>
<td>240 - 242</td>
<td>3</td>
</tr>
<tr>
<td>237 - 239</td>
<td>2</td>
</tr>
<tr>
<td>234 - 236</td>
<td>5</td>
</tr>
<tr>
<td>231 - 233</td>
<td>1</td>
</tr>
</tbody>
</table>

| N            | 30        |

Mean 248
Median 245
σ 8
\(\sigma_M\) 1
Table 28 shows data concerning the significance of the difference between the two groups on the Listening STEP Test.

The standard deviation for the public school pupils was 9 and the standard deviation for the parochial school pupils was 11. The standard error of the difference of the means was 19 and the difference between the means was 2. An insignificant difference was revealed with a "t" score of .77.

Table 29 shows data concerning the significance of the difference between the public school pupils and the parochial school pupils on the Reading Test.

The standard deviation for the respective groups was 11 and 13. The standard error of the difference of the means was 15 and the difference between the means was 6. An insignificant difference was revealed with a "t" score of 1.87.
TABLE 28

DATA CONCERNING THE SIGNIFICANCE OF THE DIFFERENCE BETWEEN THIRTY PUBLIC SCHOOL PUPILS AND THIRTY PAROCHIAL SCHOOL PUPILS ON THE STEP LISTENING TEST

<table>
<thead>
<tr>
<th>Groups</th>
<th>Test</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>M</th>
<th>$M_1 - M_2$</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public School</td>
<td>STEP</td>
<td>30</td>
<td>262</td>
<td>9</td>
<td>2</td>
<td>19</td>
<td>.77 *</td>
</tr>
<tr>
<td>Pupils</td>
<td>Listening</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Test</td>
<td>30</td>
<td>260</td>
<td>11</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Insignificant
TABLE 29

DATA CONCERNING THE SIGNIFICANCE OF THE DIFFERENCE BETWEEN THIRTY PUBLIC SCHOOL PUPILS AND THIRTY PAROCHIAL SCHOOL PUPILS ON THE STEP READING TEST

<table>
<thead>
<tr>
<th>Groups</th>
<th>Test</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>M</th>
<th>M1 - M2</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public School Pupils</td>
<td>STEP</td>
<td>30</td>
<td>257</td>
<td>11</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reading</td>
<td>30</td>
<td>251</td>
<td>13</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parochial School Pupils</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15</td>
<td>6</td>
</tr>
</tbody>
</table>

*Insignificant
Table 30 shows the data concerning the significance of the difference between thirty pupils of the public school and thirty pupils of the parochial school on the Science STEP Test. The standard deviation for the respective groups was 8 and 12. The standard error of the difference of the means was 19 and the difference between the means was 5. A "t" score of 1.92 showed insignificant difference.

Table 31 shows data concerning the significance of the difference between the two groups on the Mathematics STEP Test. The standard deviation for the public school pupils was 7 and the standard deviation for the parochial school pupils was 8. The standard error of the difference of the means was 12 and the difference between the means was 6. A "t" score of 3.00 showed significant difference.

Table 32 shows data concerning the significance of the difference between thirty public school pupils and thirty parochial school pupils on the Social Studies STEP Test. The standard deviation for the respective groups was 7 and 8. The standard error of the difference of the means was 12 and the difference between the means was 2. An insignificant difference was revealed with a "t" score of 1.00.
<table>
<thead>
<tr>
<th>Groups</th>
<th>Test</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>M</th>
<th>M_1 - M_2</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public School Pupils</td>
<td>STEP</td>
<td>30</td>
<td>253</td>
<td>8</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Science Test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parochial School Pupils</td>
<td>STEP</td>
<td>30</td>
<td>248</td>
<td>12</td>
<td>2</td>
<td>19</td>
<td>1.92*</td>
</tr>
</tbody>
</table>

*Insignificant
### TABLE 31

**DATA CONCERNING THE SIGNIFICANCE OF THE DIFFERENCE BETWEEN THIRTY PUBLIC SCHOOL PUPILS AND THIRTY PAROCHIAL SCHOOL PUPILS ON THE STEP MATHEMATICS TEST**

<table>
<thead>
<tr>
<th>Groups</th>
<th>Test</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>M</th>
<th>M1 - M2</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public School Pupils</td>
<td>STEP Mathematics</td>
<td>30</td>
<td>216</td>
<td>7</td>
<td>1</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parochial School Pupils</td>
<td>STEP Mathematics</td>
<td>30</td>
<td>240</td>
<td>8</td>
<td>1</td>
<td>12</td>
<td>6</td>
</tr>
</tbody>
</table>

*Significant

*Significant*
**TABLE 32**

DATA CONCERNING THE SIGNIFICANCE OF THE DIFFERENCE BETWEEN THIRTY PUBLIC SCHOOL PUPILS AND THIRTY PAROCHIAL SCHOOL PUPILS ON THE STEP SOCIAL STUDIES TEST

<table>
<thead>
<tr>
<th>Groups</th>
<th>Test</th>
<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>M1 - M2</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public School Pupils</td>
<td>STEP</td>
<td>30</td>
<td>250</td>
<td>7</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social Studies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parochial School Pupils</td>
<td></td>
<td>30</td>
<td>248</td>
<td>8</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

*Insignificant*
Comparison of Pupils on Basic Components of the Study with the National Norms—Scaled scores were obtained for the pupils in the public school and in the parochial school in Listening, Reading, Science, Mathematics and Social Studies. Table 33 shows the two local schools as compared with the national median in each of the areas. There was very little difference in the medians of the respective groups as compared with the national medians.

**TABLE 33**

COMPARISON OF SCALED SCORES OF THIRTY PUPILS IN A PUBLIC SCHOOL AND THIRTY PUPILS IN A PAROCHIAL SCHOOL AS RELATED TO THE NATIONAL MEDIAN ON THE STEP TEST IN THE AREAS OF LISTENING, READING, SCIENCE, MATHEMATICS, AND SOCIAL STUDIES

<table>
<thead>
<tr>
<th>Tests</th>
<th>Listening</th>
<th>Reading</th>
<th>Science</th>
<th>Mathematics</th>
<th>Social Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Median</td>
<td>269</td>
<td>257</td>
<td>259</td>
<td>251</td>
<td>253</td>
</tr>
<tr>
<td>Public School Median</td>
<td>263</td>
<td>258</td>
<td>253</td>
<td>245</td>
<td>250</td>
</tr>
<tr>
<td>Parochial School Median</td>
<td>258</td>
<td>251</td>
<td>250</td>
<td>238</td>
<td>245</td>
</tr>
</tbody>
</table>
The following shows the "t" score for each of the different areas of the STEP Tests:

<table>
<thead>
<tr>
<th>TEST</th>
<th>&quot;t&quot; SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEP Listening</td>
<td>.77</td>
</tr>
<tr>
<td>STEP Reading</td>
<td>1.87</td>
</tr>
<tr>
<td>STEP Science</td>
<td>1.92</td>
</tr>
<tr>
<td>STEP Mathematics</td>
<td>3.00</td>
</tr>
<tr>
<td>STEP Social Studies</td>
<td>1.00</td>
</tr>
</tbody>
</table>

In order for a significant difference to be shown, a "t" score of 2.002 must be available. There is no significant difference between the thirty pupils from the public school and the thirty pupils from the parochial school in their performance on either of the Sequential Tests of Educational Progress (STEP Tests) except mathematics.

This chapter has presented detailed discussions of the subjects in the study through verbal and tabular descriptions. There were insignificant differences in the performance of both groups of pupils on basic components of the study.
Summary, Conclusions, and Recommendations

Summary.— Public and parochial schools perform the same function in preparing children for American citizenship. However, the philosophy for the maintenance of each school differs in that the public school has been designed to meet basic needs of youth and to preserve and advance the welfare of society and the parochial schools' interests lie not in the public, but in one segment of the public. The public school has based its maintenance and expansion on the idea of equal worth and dignity of the individual, the necessity of having enlightened citizens, the worth of the school as an instrument for social advance and progress, and the equality of opportunity and self-advancement. The parochial school has based its maintenance and expansion on the idea that the children can be trained in the religion of the parents, there is freedom to develop new methods and try experiments which serve as yardsticks in the competitive area of creating better methods of imparting knowledge, the promotion of intellectual training makes for harmony and unity, the perpetuation of a secular emphasis which is indispensable for the continued growth of the democratic spirit, and the indoctrination in youth a confidence in themselves and their world.

The preceding emphasis in the public and parochial schools in continuing the growth of democracy is in conjunction with certain values on
which society rests. The theoretical, economic, aesthetic, social, political and religious values have distinctive roles in strengthening American democracy.

This study was a comparison of certain mental traits manifested by pupils attending a public school and pupils attending a parochial school, together with differences in values expressed by their parents. There were several tests administered to find mental traits of pupils both in the public and parochial school. The questionnaire about the child's home and community life gave the writer much insight in her efforts to match an equal number of children from the public and parochial schools in terms of housing status, occupation and education of both parents and economic status.

Following the selection of cases the comparisons were made by use of two types of standardized tests. Lorge-Thorndike Tests (verbal and nonverbal) were given to measure intellectual aptitude. The verbal test items gave a good index of scholastic aptitude, whereas the nonverbal gave an estimate of scholastic aptitude which was not influenced by any lack of ability to read. The Sequential Tests of Educational Progress were administered for purposes of measuring achievement. This was a series of tests which included listening, reading, science, mathematics, and social studies. The broad outcomes of general education are measured from these tests rather than the narrow results of any specific subject-matter.

The Pupil Adjustment Inventory proved helpful in this study because of its contribution in helping the teacher to keep in mind the various factors that affected an individual's development. This Inventory is
very useful in assisting teachers to work with each new group of pupils they usually meet at the beginning of a school year.

The test of values which was given to the parents was devised by Allport and Vernon. It measured the relative prominence of six basic interests or motives of personality, the theoretical, economic, aesthetic, social, political and religious. The instrument consisted of a number of questions, based upon a variety of familiar situations to which two alternative answers are provided. Pages 35 - 49, in Chapter II give a comprehensive analysis of the findings from the Study of Values.

The main purpose of this study was to compare a group of pupils from a public school and a group from a parochial school on eight different tests. More specifically the purpose was to answer the questions listed under the Statement of the Problem in Chapter I. A combination of the normative survey, statistical, and questionnaire methods was used for this study.

A summary of pertinent literature indicates that studies have been made with emphasis on public and parochial school children. The information that was revealed about the two groups dealt with valuable purposes of parochial schools; a comparison of the two groups academically; complaints of the flaws in public schools; public and parochial school pupils grouped and compared according to family income or occupation of parents; class-work of one-hundred teachers of the better parochial schools; difficulties of pupils attending parochial schools; attitudes toward public and parochial schools and the values of future teachers.
Findings.— Many people have the belief that children who attend parochial schools are superior to those who attend public schools. The writer found that there were statistically significant differences in their performance on the Verbal Battery of the Lorge-Thorndike Intelligence Test and the STEP Mathematics Test in favor of the parochial school pupils.

Data are shown concerning the significance of the difference between the thirty pupils of the public school and the thirty pupils of the parochial school on the Verbal and Nonverbal Batteries of the Lorge-Thorndike Test. The respective means of 90, 102, 92, and 94 indicated that the two groups were of average intelligence since the means fell between 84 and 116. In order for a significant difference to be shown, a "t" score of 2.002 must be available. A "t" score of 3.33 on the Verbal Battery revealed significant difference and a "t" score of .67 on the Nonverbal Battery was insignificant.

The two groups were compared with the national norms in their performance on the STEP Tests in the areas of listening comprehension, reading, science, mathematics, and social studies. The medians for the respective groups as compared with the national medians were fairly similar, but slightly below the national norms in all areas except reading. The results were the following: listening - public 263, parochial 258, national 269; reading - public 258, parochial 251, national 257; science - public 253, parochial 250, national 259; mathematics - public 245, parochial 238, national 251; social studies - public 250, parochial 245, national 253.
The following "t" scores for each of the areas of the STEP Tests were: Listening .77, reading 1.87, science 1.92, mathematics 3.00, and social studies 1.00.

A "t" score of 2.002 must be available for a significant difference. The "t" scores made by the two groups in each area of the STEP Tests were below this point with the exception of Mathematics, thus proving that there is no significant difference between the thirty pupils from the public school and the thirty pupils from the parochial school in either of the areas but Mathematics.

The Pupil Adjustment Inventory was used to rate the following traits of the thirty public school pupils and the thirty parochial school pupils: academic, social, emotional, physical, activities and interests, school's influence upon pupils and home background. The profiles revealed no major similarities or difficulties of the two groups of pupils.

The Allport and Vernon Study of Values was administered to both groups of parents. The means of the local females compared with national females as follows: theoretical - local 45.50, national 36.36; economic - local 40.50, national 38.78; aesthetic - local 34.00, national 42.22; social - local 42.50, national 41.26; political - local 39.00, national 38.13; religious - local 43.50, national 43.24. The means of the local males compared with national males as follows: theoretical - local 42.50, national 43.29; economic - local 35.00, national 42.12; aesthetic - local 33.50, national 37.20; social - local 41.00, national 37.70; political - local 38.00, national 42.70; religious - local 45.00, national 37.01.
The "t" scores made by the two groups were below the significant point of 2.002. They were as follows for both parents: theoretical - mothers .59, fathers .71; economic - mothers 1.50, fathers .58; aesthetic - mothers 1.17, fathers .31; social - mothers 1.00, fathers 1.17; political - mothers 2.00, fathers .76; religious - mothers 1.50, fathers .91.

The insignificant "t" scores revealed that there was no significant difference between the values held by the parents of the public school pupils and the values held by the parents of the parochial school pupils.

Conclusions.-- This study compared certain mental traits manifested by pupils attending a public school and pupils attending a parochial school, together with respective values expressed by their parents. Generally, the findings upheld the null-hypotheses, which stated that any difference in intelligence, achievement and parental values of public and parochial school pupils were purely a matter of chance. More specifically, the following conclusions were drawn:

1. In the area of personality, the parochial and public school pupils of this study showed no significant differences in personal adjustment levels. A comparison of the components of the Pupil Adjustment Inventory on which they were rated supported this conclusion.

2. In intelligence the two groups differed significantly on the verbal battery. The scores made by the two groups on the Lorge-Thorndike Intelligence Test of Mental Ability indicated the same low average mean rating in both verbal and nonverbal skills.
3. In achievement the two groups of pupils did not differ significantly in their performance on the listening comprehension, reading, science, and social studies sections of the Sequential Tests of Educational Progress. There was a significant difference on the Mathematics section in favor of the parochial pupils.

4. Values held by parents of public and parochial school pupils did not differ significantly in economic, social, political, religious, theoretical or aesthetic areas. In so far as the values measured by the Allport and Vernon Scale are concerned, the mothers and fathers of both groups of subjects in the present study do not differ from the standardizing group.

5. Specific implications which seemed appropriate to these conclusions follow. There is no reason to assume that enrollment of children in parochial schools is the result of peculiar general values held by these parents; hence, the reasons behind the choice must be sought in more specific areas. If public and parochial schools reveal no significant differences in intelligence levels and academic achievements of their pupils, the main argument for continuation of the parochial school would lie in its contribution to the religious lives of the children and to other character traits not within the purview of this study.
**Recommendations.**—The recommendations of the present study are based on the findings and conclusions referred to above. A study needs to be made of certain adjustment factors and standards of conduct characterizing groups similar to the ones used in this research.

There is a need for an extension of the present study into an investigation of interests, aspirations and attitudes expressed by the two groups of pupils.

A comparative follow-up study of the two groups of pupils would be informative in revealing the number of drop-outs of each school; the number who complete high school; the number who enter college and graduate; and the number who pursue further study in other areas.

A comparative study of the attitudes of the two groups of parents toward their children would reveal interesting aspects not included in this study.

It is desirable that both schools improve their programs in the areas of verbal and nonverbal skills.

Public schools must make programs more effective in the area of broad mathematical concepts.

It may be recommended, finally, that further study of public attitudes toward parochial and public schools be made in order to note any changes in interpretation of their respective aims and functions in the society in general and in areas which differ markedly in proportions of schools represented.
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Tests


APPENDIX

FORMULAS USED

1. Mean

\[ M = \bar{M} + \left( \frac{\sum f_x}{N} \right) i \]

2. Median

\[ \text{Md}_n = l + \left( \frac{N - F_b}{F_p} \right) i \]

3. Standard Deviation

\[ s = i \sqrt{\frac{\sum f_x^2}{N} - \left( \frac{\sum f_x}{N} \right)^2} \]

4. Standard Error of the Mean

\[ \sigma_M = \frac{\sigma_1}{\sqrt{N-1}} \quad \sigma_M = \frac{\sigma_2}{\sqrt{N-1}} \]

5. Standard Error of the Difference between the Means

\[ \sigma_{M_1-M_2} = \sqrt{\left( \frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2} \right) \left( \frac{N_1+N_2}{N_1N_2} \right)} \]

6. "t" Score

\[ t = \frac{M_1 - M_2}{\sqrt{\left( \frac{N_1}{N_1-2} + \frac{N_2}{N_2-2} \right) \left( \frac{N_1+N_2}{N_1N_2} \right)}} \]
QUESTIONNAIRE ABOUT CHILD'S HOME AND COMMUNITY LIFE

DIRECTIONS: Read all questions carefully. If your answer is YES, place "X" over the blank that says YES. If your answer is NO, place "X" over the blank that says NO. Put an "X" over other questions in specified places. Answer the remaining questions with the necessary word or words.

1. How many people are in your family? ________

2. Does either of your parents belong to a parent-teacher organization? yes no

3. Does your family own (not rent) the home in which you live? yes no

4. Does your family have an automobile? yes no

5. Do you share your room at home with other members of the family? yes no

6. If answer to above question is YES, how many people share your room? write number

7. About how many books do you have at home for reading? write number

8. Where does your mother work? ________

9. Where does your father work? ________

10. List highest grade father completed in school. grade high college school school degree

11. List highest grade mother completed in school. grade high college school school degree
12. Do you like the neighborhood where you live?  
   yes  no

13. Do you receive an allowance?  
   yes  no

14. If answer to the previous question is YES, how much allowance do you receive weekly?  

15. What is the approximate income of your family?  

16. What do you enjoy doing in your leisure time?  

17. What church are you a member?  

18. Does your family have a television?  

19. What do you like best about your school?  

20. If you had one wish, what would it be?  

NAME ________________________ DATE ________________________

TEACHER _____________________ SCHOOL _____________________
DIRECTIONS. This booklet contains four short tests which will give you a chance to show what you know and how well you think. You are to mark your answers to all the questions in this booklet in the column of dotted answer spaces at the right-hand side of each page. The questions are followed by five choices, only one of which is the right answer.

Look at the first sample question below. It is correctly marked. Study it carefully to see for yourself just how you are to mark your answers.

1. Choose the word which has the same meaning, or most nearly the same meaning, as the word in dark type at the beginning of the line.

   dog    A afraid    B song    C animal    D large    E fly

   C  D

Now look at the next two samples. Choose the right answer and then make a heavy black pencil mark in the dotted answer space that has the same letter as the answer you picked.

2. In the group of choices lettered F to K, find the word that will make the best, the truest, and the most sensible complete sentence.

   The sun always rises in the ————.

   F east  G wind  H night  J rain  K water

3. Choose the right answer to this problem and mark the answer space.

   A boy bought a pencil for 10 cents and some paper for 10 cents. How much did he spend?

   L 5 cents  M 10 cents  N 15 cents  P 20 cents  Q none of these

   If you wish to change an answer, erase your mark completely, and then make another mark in the right answer space.

   You may find some of the questions very easy and some of them rather hard. Try to answer every question, but do not spend too much time on those that you find very hard. Do those that you can, and then, if you still have time left, go back and do those that you skipped. You are not expected to be able to answer all the questions correctly. Always do your very best.

   At the beginning of each short test there are directions that tell you what to do. Wait until you are told to begin before turning the page.
One word has been left out of each sentence on these two pages. Choose the word that will make the best, the truest, and the most sensible complete sentence. Look at sample sentence 0.

0. Hot weather comes in the ——. A fall B night C summer D winter E snow

The best answer is summer. The letter before summer is C, so you should make a heavy black pencil mark in the C answer space for sentence 0.

Now look at sentence 00.

00. bark at cats. F Cows G Mice H Cats J Hens K Dogs

The best answer is Dogs, so you should make a heavy black pencil mark in the K answer space for sentence 00.

Do all the sentences on these two pages in the same way. Try every sentence.

1. Boys will become ——. A infants B little C intelligent D stupid E men

2. We see —— only at night. F children G plants H stars J houses K trees

3. Fred was six years old. There were six —— on his birthday cake. L candles M boys N girls P parties Q children

4. Not every cloud gives ——. R weather S shade T sky U climate V rain

5. Coal is ——; snow is white. A blue B white C red D green E black

6. In the spring the buds form on the branches of the ——. F trees G rivers H bugs J leaves K animals

7. The —— must bend when the wind blows upon it. L ground M house N path P grass Q sky

8. There is an old ——, “An apple a day keeps the doctor away.” R talk S saying T reader U book V man

9. Nothing out of its place is good and nothing in its place is ——. A there B bad C right D shelved E simple

10. The ragged —— may prove a good horse. F puppy G child H calf J lamb K colt

Page 2 Go right on to the next page.
11. I know of no way of judging the — but by the past.
L former M future N priority P morn Q decline

12. Caterpillars spin — for themselves in the fall.
R webs S around T moths U cocoons V butterflies

13. How far the little — throws its beams!
A candle B cake C sky D puppy E night

14. When a dove begins to associate with crows, its feathers remain — but its heart grows black.
F black G white H dirty J spread K good

15. Good company on a journey makes the — seem shorter.
L feast M way N joy P work Q care

16. How the — roses flush up in the cheeks!
R white S pretty T small U yellow V red

17. The important thing is not so much that every child should be taught, as that every child should be given the wish to —.
A learn B play C hope D reject E teach

18. The person who — another must make good the damages.
F reforms G improves H instructs J injures K delights

19. It must be —: I've done it from my youth.
L right M wrong N factual P rude Q kind

20. Cause and effect, means and ends, seed and — cannot be severed.
R caution S thought T fruit U science V philosophy

21. No matter how harsh advice may be, it — no one.
A injures B helps C pays D delights E respects

22. The only stable state is the one in which all men are — before the law.
F just G right H equal J guiltless K natural

23. It is — to be generous with other people's property.
L desirable M necessary N good P important Q easy

24. Reason is founded on the — of our senses.
R love S confusions T abuse U evidences V brutality

25. Think long when you may — only once.
A abstain B live C die D decide E eat

Page 3

Stop! Wait until you are told to go ahead to Test 2.

Score
Look at sample question 0.

0. rose daisy violet
   A red   B garden   C sweet   D grow   E lily
The words in dark type in question 0 are the names of flowers. On the next line only lily is the name of a flower. The letter before lily is E, so you should make a heavy black pencil mark in the E answer space for question 0.

Now look at question 00. Think in what way the words in dark type go together. Then find the word on the line below that belongs with them.

00. go  run  walk  move
   F think  G dream  H march  J sing  K seem
The right answer is march. You should make a heavy black pencil mark in the H answer space for question 00.

Do all the questions on these two pages in the same way. Try every question.

1. horse cow lamb
   A farm  B forest  C canary  D pig  E beast
2. Ed  Dick  Pete
   F Benjamin  G Ted  H Harold  J Melvin  K Arthur
3. dish  cup  glass
   L fork  M food  N plate  P drink  Q meal
4. bean  carrot  spinach
   R orange  S pea  T seed  U vegetable  V lunch
5. Sarah  Clara  Joan
   A Ben  B Freddy  G Louise  D Sam  E Ronald
6. violet  rose  poppy
   F cherry  G apple  H garden  J tulip  K hemlock
7. pencil  chalk  crayon
   L paper  M letter  N easel  P pen  Q paint
8. hand  chin  eye  toe
   R glove  S shoe  T hair  U touch  V forehead
9. pot  kettle  broiler  skillet
   A sink  B stove  C tumbler  D tray  E pan
10. corn  rye  wheat  barley
    F rice  G carrots  H cucumber  J bean  K tomato
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<td>Jupiter, Juno</td>
</tr>
</tbody>
</table>

Stop! Wait until you are told to go ahead to Test 3.

**Score**
Look at sample problem 0.

0. If candy costs a cent a piece, how much will nine pieces cost?
   A 1¢   B 7¢   C 8¢   D 9¢   E none of these
   The right answer is 9¢. The letter before it is D, so you should make a heavy black pencil mark in the D answer space for problem 0.

Now look at problem 00.

00. Mrs. Jones bought a pound of potatoes for 10¢ and a pound of spinach for 15¢. How much did she spend?
   F 5¢   G 10¢   H 15¢   J 20¢   K none of these
   The right answer is 25¢. The answers at F, G, H, and J are wrong. You should make a heavy black pencil mark in the K answer space because "none of these" is the best answer for problem 00.

Do all the problems on these two pages in the same way. Try every problem.

1. Jim bought a candy bar for 5 cents and a piece of gum for 2 cents. How much did he pay for both?
   A 3¢   B 7¢   C 10¢   D 52¢   E none of these

2. Helen bought a pad for 5 cents, some candy for 12 cents, and a pen for 6 cents. How much did she spend altogether?
   F 21¢   G 22¢   H 23¢   J 33¢   K none of these

3. A pad costs 5 cents. How much will 4 pads cost?
   L 9¢   M 16¢   N 18¢   P 25¢   Q none of these

4. John bought some peanuts for 10 cents. He gave the man 25 cents. How much change should he get back?
   R 35¢   S 25¢   T 20¢   U 15¢   V none of these

5. Dick wants to buy some 5¢ pencils. How many can he buy for 25 cents?
   A 5   B 20   C 25   D 30   E none of these

6. Jane had 36 cookies. She gave away 21 of them. How many did she have left?
   F 14   G 15   H 17   J 57   K none of these

7. A classroom has 5 rows of seats with 7 seats in each row. How many children can be seated in the room?
   L 2   M 12   N 35   P 57   Q none of these
8. Mary bought a comic book for 10 cents, some gum for 5 cents and a candy bar for 5 cents. How many cents did she spend in all?
   R 15¢  S 20¢  T 25¢  U 50¢  V none of these

9. There are 20 children in a class. Each gives the teacher 10 cents for milk. How much does the teacher get in all?
   A 10¢  B 30¢  C $1.00  D $2.00  E none of these

10. It takes Mary 20 minutes to walk to school. Sue can walk to school in half the time it takes Mary. How many minutes does it take Sue to walk to school?
    F 10  G 20  H 30  J 40  K none of these

11. A hostess needs enough ice cream to serve 30 persons. How many quarts should she order if one quart will serve 6 persons?
    L 6  M 24  N 36  P 180  Q none of these

12. Every time Mr. Dwyer draws a check, his bank charges him 5¢. How much does the bank charge him during one month for 23 checks?
    R $.25  S $.28  T $1.05  U $1.15  V none of these

13. There are 321 children in a school. One day 104 went on a trip. How many children were left in school?
    A 425  B 227  C 217  D 207  E none of these

14. Mr. Ronald told Peggy that he would give her $1200 to pay for her first year at college. If he gave her $480 to start with and the rest in eight monthly payments, how much was she to receive each month?
    F $80  G $90  H $133$  J $720  K none of these

15. Sam gets 20% of the price for each magazine subscription that he sells. He wants to earn $50 during the summer. What is the value of the subscriptions he will have to sell?
    L $10  M $40  N $50  P $200  Q none of these

Stop! Wait until you are told to go ahead to Test 4.
For the questions on this page, you are to choose the word which has the same meaning, or most nearly the same meaning, as the word in dark type at the beginning of the line. Look at sample question 0.

0. loud A quick B noisy C hard D heavy E weak

The best answer is noisy. The letter before noisy is B, so you should make a heavy black pencil mark in the B answer space for question 0.

Do all the questions on this page in the same way. Try every question.

1. land A ground B town C roof D river E grass
2. toss F drink G add H sum up J lower K throw
3. elephant L bird M zoo N snake P animal Q fish
4. last R hope S shoe T back U end V king
5. enter A place B play C try out D leave E go in
6. beside F lay siege G over H how J close to K few
7. single L one M many N some P all Q few
8. carpenter R ruin S red carpet T building U clam V workman
9. torture A toper B total C law D labyrinth E torment
10. mix F combine G skip H reach J color K lose
11. fasten L fix M divide N feed P loosen Q grease
12. whistle R small thing S song T bird U serpent V shrill sound
13. dew A storm B moisture C drop D honey E fog
14. sob F prejudice G solemn H sigh J joy K kind
15. adjust L parole M account N disturb P regulate Q render
16. heavily R lightly S solidly T feverish U goodly V weakly
17. grip A grate B grow C gyrate D grasp E grin
18. recipe F catch G share H formula J narrative K payment
19. detail L sale M insurance N item P bookkeeper Q poison
20. hairy R light S beguiled T divested U shaggy V unique
21. exclamation A supplication B outcry C uplift D calamity E persecution
22. hunger F food G famine H frustration J fake K force
23. patent L officer M client N license P head Q sheen
24. agile R nervous S antiseptic T nimble U pugnacious V terrified
25. tangible A ghostly B substantial C pungent D obstructive E twisting

Page 8 Turn over your test booklet and wait for further instructions.
DIRECTIONS: This booklet contains three short tests which will give you a chance to show what you know and how well you think. You are to mark your answers to all the questions in this booklet in the column of dotted answer spaces at the right-hand side of each page. The questions are followed by four or five choices, only one of which is the right answer.

Look at the first sample question below. It is correctly marked. Study it carefully to see for yourself just how you are to mark your answers.

1. The first three drawings in the row below are alike in a certain way. Find the drawing at the right that goes with the first three.

![Sample drawings]

The C answer space has been marked because the only black square at the right is at C.

Now look at the next sample. Choose the right answer and then make a heavy black pencil mark in the dotted answer space that has the same letter as the answer you picked.

2. The first four numbers in the row below are in a certain order. In the group of choices lettered F to K, find the number that should come next.

1 2 3 4 →

The number that should come next after 1 2 3 4 is 5. Make a heavy black pencil mark in the F answer space for sample question 2. You will be given more chances for practice before beginning each of the tests that follow.

If you wish to change an answer, erase your mark completely, and then make another mark in the right answer space.

You may find some of the questions very easy and some of them rather hard. Try to answer every question, but do not spend too much time on those that you find very hard. Do those that you can, and then, if you still have time left, go back and do those that you skipped. You are not expected to be able to answer all the questions correctly. Always do your very best.

At the beginning of each short test there are directions that tell you what to do. Wait until you are told to begin before turning the page.
Look at sample question 0. The first three drawings in the row are alike in a certain way. Find the drawing at the right that goes with the first three.

0. The first three drawings are alike in that each has four sides and no lines inside it. The drawing at the right that goes with them is at D. It has four sides and no lines inside it. Make a heavy black pencil mark in the D answer space for question 0.

Now look at question 00. Find the drawing at the right that goes with the first three.

00. The first three drawings are alike in that they have three sides and are getting wider. At the right, the only one that is still wider is at H. Make a heavy black pencil mark in the H answer space for question 00.

Do the others below and on the next two pages in the same way. Try every row.
8. 

9. 

10. 

11. 

12. 

13. 

14. 

15. 

16. 

17. 

18. 

19. 

Page 3

Go right on to the next page.
Look at sample question 0. The numbers at the left are in a certain order. Find the number at the right that should come next.

0. 1 2 3 4 5 → A 5 B 6 C 7 D 8 E 9

The number that should come next after 1 2 3 4 5 is 6. Make a heavy black pencil mark in the B answer space for question 0.

Now look at question 00. Find the number at the right that should come next.

00. 5 5 4 4 3 → F 1 G 2 H 3 J 4 K 5

The next number should be 3, so you should make a heavy black pencil mark in the H answer space for question 00.

Stop! Wait until you are told to go ahead to Test 2.
Look at sample question 0. The first two drawings go together in a certain way. Find the drawing at the right that goes with the third drawing in the same way that the second goes with the first.

The right answer is the shoe at C, because the shoe at C goes with the foot just as the glove goes with the hand. Make a heavy black pencil mark in the C answer space for question 0.

Now look at question 00. Find the drawing at the right that goes with the third drawing as the second goes with the first.

The right answer is K, because the little circle at K goes with the little square just as the big circle goes with the big square. Make a heavy black pencil mark in the K answer space for question 00.

Do the others below and on the next two pages in the same way. Try every row.
sequential tests of educational progress

Listening
General Directions

This is a test of how well you can understand the kinds of things that are often spoken aloud to you. You should take the test in the same way that you would work on any new and interesting assignment. Here are a few suggestions which will help you to earn your best score.

1. Make sure you understand the test directions before you begin. You may ask any questions about any part of the directions if you do not understand.

2. You will make your best score by answering every question. Your score is the number of correct answers you mark. If a question seems to be too difficult, make the most careful guess you can, rather than waste time puzzling over it.
DIRECTIONS FOR PART ONE

A number of short selections will be read aloud to you. These selections will include such things as stories, directions, poems, explanations, and arguments. After each selection, you will hear a group of questions or incomplete statements. Four suggested answers are given for each question or incomplete statement. You are to decide which one of these answers is best.

Remember to listen carefully because each selection and each question will be read aloud only once and they are NOT printed in your test booklet. The suggested answers ARE printed in your test booklet so you can look at them while you are choosing your answer.

You must mark all of your answers on the separate answer sheet you have been given; this test booklet should not be marked in any way. Mark your answer sheet by blackening the space having the same letter as the answer you have chosen. For example, suppose the following selection and question were read to you:

**Selection**
The old man hurried back to his house, and his mind was full of many things. When he suddenly saw a fat, yellow cat sitting in his best armchair, he could only stand there rubbing his eyes and wondering whose house he was in.

**Question Number 0**
When the old man saw the yellow cat in his best armchair, how did he feel?

Your test booklet would look like this:

0  A  Pleased  
B  Surprised  
C  Sad  
D  Angry

Since the old man was surprised to see the cat, you should choose the answer lettered B. On your answer sheet, you would first find the row of spaces numbered the same as the question—in the example above, it is 0. Then you would blacken the space in this row which has the same letter as the answer you have chosen. See how the example has been marked on your answer sheet.

Make your answer marks heavy and black. Mark only one answer for each question. If you change your mind about an answer, be sure to erase the first mark completely.

Do not turn this page until you are told to do so.
PART ONE

1 A only when a real fire breaks out  
B whenever the fire bell sounds  
C only when the teacher announces a fire drill  
D whenever the firemen come  
2 E go right home without waiting  
F go as far from the building as possible  
G go to the left corner of the playground  
H go to the far end of the block  
3 A save our lives  
B memorize them  
C make up others  
D help the firemen  
4 E To have more chance for exercising  
F To get a better view of the fire  
G To use their regular play space  
H To be out of danger  
5 A any fire exit  
B the door on the south  
C the hallway to the right  
D the nearest fire exit  
6 E take nothing with you  
F take your lunch with you  
G take your coat with you  
H leave your desk neat and clean  
7 A the signal is given  
B the whistle blows  
C one of the children tells you to return  
D you think everyone is out of the building  
8 E it is easier for all to come in at one time  
F it might bother the firemen  
G the building might be on fire  
H the teacher doesn’t want pupils in the building  
9 A a dealer in antiques  
B a postman  
C a dealer in stamps  
D a coin collector  
10 E she wanted to find out how much each one was worth  
F her friend had recommended him  
G she wanted to sell all the stamps to him  
H she wanted him to find one valuable stamp  
11 A be polite to the old lady  
B see which ones he liked  
C see how much they were worth  
D see how many there were  
12 E $100 for all of them  
F $100 for one of them  
G $250 for all of them  
H $250 for one of them  
13 A All of them  
B Many of them  
C About half of them  
D A few of them  
14 E after he examined the stamps  
F after he talked with his partner  
G after he bargained with the lady  
H after he waited a week  
15 A disappointed by the amount of the check  
B pleased by the amount of the check  
C sad about selling the stamps  
D unwilling to part with the stamps  
16 E put them away in a shoe box  
F take them to a different dealer  
G bring them to this dealer  
H show them to her friend  

Go on to the next page.
17 A A sad feeling  
B A relaxed feeling  
C A proud feeling  
D A feeling of doubt

18 E to explain democracy to people in other countries  
F to tell us not to be ashamed of the flag  
G to get more people to salute the flag  
H to remind us of what our flag represents

19 A What the stars on our flag represent  
B That children say the pledge to the flag every day  
C What the pledge to the flag really means  
D How new citizens learn the pledge to the flag

20 E have risked their lives for our flag  
F remember the thirteen original states  
G stand at attention for the flag  
H put our flag up on holidays

21 A the color of the flag  
B the serious promises he makes  
C how the flag is displayed  
D how many people salute the flag

22 E gold is the best treasure  
F bluebirds have shining feathers  
G small boys treasure many things  
H many lands have riches

23 A almost anything may be precious  
B things swapped are most treasured  
C only bright things are attractive  
D a hunt for gold is most exciting

24 E how foolish the child was  
F what adults think valuable  
G that faraway things are better  
H ways to get rich

25 A telling the things he collects  
B using big words  
C telling how the boy looked  
D laughing at what he collects

26 E in a box or bag  
F in a cup or carton  
G in his hand or pocket  
H in his lunch pail or basket

Go on to the next page.
27 A “What Happens to Old Ships?”
B “A Famous Old Barn”
C “A Ship and a Barn”
D “What Became of the Mayflower?”

28 E Plymouth Rock is in England.
F The ship was built there.
G Mayflowers grow in England.
H A farmer from Buckinghamshire bought the wood.

29 A The way the facts fit together
B The barn that is still standing
C The information from detectives
D The dates given

30 E talking about the Pilgrims
F giving you several facts
G describing the barn
H telling you he believes it

31 A put several clues together
B ask questions
C read old tax reports
D show confidence in one’s beliefs

32 E baking it in an oven
F polishing it with steel wool
G scrubbing it with paint cleaner
H drying it two days

33 A it is a bright color
B it fits into most color schemes
C it is cheaper than other paints
D it is easier to use

34 E from upholstery or wallpaper
F from a painting book
G from other trays
H from magazine covers

35 A they are long and detailed
B the trays will be pretty
C the words are easy
D they give the steps in order

36 E To enjoy the painting
F To make inexpensive gifts
G To practice making designs
H For all of these reasons

Go on to the next page.
37  A noticed the poison ivy growing there
    B found hoof prints at the stream crossing
    C watched the birds fly past
    D found broken sticks at the stream crossing

38  E is not far from the main road
    F seems depressing to people
    G is along a well-beaten path
    H probably has few human visitors

39  A sees a great deal when he goes into the woods
    B has difficulty in describing what he sees
    C does not often get to the woods
    D lives in a log cabin

40  E His regret about the poison ivy
    F His curiosity about the woods
    G His hope that he will see the deer
    H His enjoyment of a beautiful place

End of Part One

DIRECTIONS FOR PART TWO

Part Two contains the same kind of material as Part One. Mark your answers in the same way.
PART TWO

1 A a baking pan
   B an electric toaster
   C an oven
   D a frying pan

2 E an egg mixture
   F honey, syrup, or marmalade
   G red raspberry jam
   H bacon and eggs

3 A how many it will serve
   B how many eggs to use
   C the length of time for browning the bread
   D how much sugar to use

4 E it is a different kind of toast
   F it is a familiar kind of toast
   G it is made from brown bread
   H it can be made ahead of time

5 A milk to use
   B orange rind to use
   C bread to use
   D butter or margarine to use

6 E don’t have enough time to make regular toast
   F want a change from regular toast
   G are getting your own breakfast
   H have lots of orange juice on hand

7 A “Several Varieties of Toast”
   B “French Toast”
   C “A Good Breakfast”
   D “Orange Toast”

8 E The comfort of the chair
   F The fever from measles
   G The pictures on the walls
   H The dust in the sun’s rays

9 A an elf dancing
   B a fairy castle
   C a tiny fairy
   D a tin soldier

10 E danced gaily
    F kept still
    G changed size
    H fell down

11 A Another took its place.
    B He didn’t like it.
    C He liked dancers best.
    D He wanted to look outdoors.

12 E His mother called him.
    F He went back to bed.
    G The sun went down.
    H He got tired of playing.

13 A stars
    B candles
    C fireflies
    D flames

14 E have been very sick
    F be a very lonely child
    G have a good imagination
    H have had the measles

15 A traveled a lot
    B had nightmares
    C been very sick
    D read many books

Go on to the next page.
A tell her dad how much things cost  
B ask her parents to let her go to work  
C tell about her friends' allowances  
D get more spending money

18 E no good reasons  
F no reasons at all  
G reasons that seemed good to her  
H reasons that were well organized

19 A “Sue gets twice as much.”  
B “I'm the only one who has so little money.”  
C “I'm asking just one simple favor.”  
D “I'll promise to save all I can.”

20 E Yes, and she went at it in the right way.  
F Yes, but she should have let them say something.  
G No, but she gave a good speech just the same.  
H No, but she had to express her feelings to someone.

21 A “The Log Jam”  
B “The Hungry Boy”  
C “A Narrow Escape”  
D “Catching Cold”

22 E completely covered with logs  
F almost covered with logs  
G calm water  
H jammed with ice

23 A a long pole  
B a flashlight  
C a loop of wire  
D a coil of rope

24 E hurt herself  
F had a chill  
G recovered from worry  
H been very angry

25 A tying the logs together  
B keeping the logs the way they were  
C separating the logs  
D knocking the logs down

26 E what Mikael was going to do when he reached home  
F what Mikael's father said to him about his disobedience  
G what caused the accident  
H how his mother felt

Go on to the next page.
27 A show that she could  
    B get even with Sally  
    C be at the top of her class  
    D try to improve her grade  

28 E Sally's paper was easy to see.  
    F The teacher had left the room.  
    G Sally offered her the answer.  
    H She could peek at her book.  

29 A Her dislike of cheating  
    B Her fear of being found out  
    C Her understanding of her father's feel-ings  
    D Her desire to make good grades  

30 E Proud of herself  
    F Ashamed of herself  
    G Afraid of the teacher  
    H Nervous and uneasy  

31 A When you heard the last sentence  
    B When Nan thought of cheating  
    C When Nan picked up her pen  
    D When the bell rang  

32 E Yes, because how else could we have gotten the story.  
    F Yes, because children are often tempted to cheat in school.  
    G No, because it was in a story.  
    H No, because no child would act as Nan did.  

33 A You should study hard for tests.  
    B Good grades are more important than honesty.  
    C Cheating is wrong if you get caught.  
    D You feel good when you decide to do right.  

34 E it was Safety Week  
    F children had been hurt in accidents  
    G equipment had been damaged  
    H pupil helpers were to be trained  

35 A That the children were not having fun there  
    B That things were all mixed up on the playground  
    C That the school owned too much play-ground equipment  
    D That the children were probably not getting enough exercise  

36 E show directions  
    F separate boys and girls  
    G show where to play each game  
    H show where to park bicycles  

37 A the requests of the principal  
    B his own opinion  
    C the request of parents  
    D the decision of the council  

38 E was a poor one  
    F was worth trying  
    G should be voted on  
    H needed more explanation  

39 A Yes, because he made the plan sound as if it would work  
    B Yes, because he gave a nice long speech about what happened  
    C No, because he made the problem seem much worse than it is  
    D No, because he made fun of the first graders  

40 E Look out for smaller children.  
    F Check out any equipment.  
    G Bring play equipment from home.  
    H Suggest any new ideas.  

End of Test
Cooperative

Sequential Tests of Educational Progress

Reading

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Cooperative Test Division • Educational Testing Service • Princeton, N.J. • Los Angeles 27, Calif.
General Directions

This is a test of some of the understandings, skills, and abilities you have been developing ever since you first entered school. You should take the test in the same way that you would work on any new and interesting assignment. Here are a few suggestions which will help you to earn your best score:

1. Make sure you understand the test directions before you begin working. You may ask questions about any part of the directions you do not understand.

2. You will make your best score by answering every question because your score is the number of correct answers you mark. Therefore, you should work carefully but not spend too much time on any one question. If a question seems to be too difficult, make the most careful guess you can, rather than waste time puzzling over it.

3. If you finish before time is called, go back and spend more time on those questions about which you were most doubtful.
DIRECTIONS FOR PART ONE

Each of the questions or incomplete statements in this test is followed by four suggested answers. You are to decide which one of these answers you should choose.

You must mark all of your answers on the separate answer sheet you have been given; this test booklet should not be marked in any way. You must mark your answer sheet by blackening the space having the same letter as the answer you have chosen. For example:

0 Which one of the following is an animal?
   A Bed
   B Dog
   C Chair
   D Box

Since a dog is an animal, you should choose the answer lettered B. On your answer sheet, you would first find the row of spaces numbered the same as the question—in the example above, it is 0. Then you would blacken the space in this row which has the same letter as the answer you have chosen. See how the example has been marked on your answer sheet.

Make your answer marks heavy and black. Mark only one answer for each question. If you change your mind about an answer, be sure to erase the first mark completely.

Do not turn this page until you are told to do so.
PART ONE

(1) It was on a trip with the wagon train that William first saw Indians on the warpath. Over the hills they came, their feathers waving in the wind. They held their tomahawks over their heads and gave great yells as they rode. They rode in circles around the wagons—each circle growing smaller and bringing the Indians closer to their prey.

(2) The white men aimed and fired. They drove the Indians away, but knew that the red men would return. The oxen were hitched quickly to the wagons. Whips cracked! Wheels began to move! The great train was on its way.

(3) William ran behind the wagon with some of the men. He became very tired, and his feet felt so heavy he could hardly make them carry him forward. Try as he would to keep up, he got farther and farther behind.

(4) Suddenly he heard a noise, and looking up, he saw the cruel face of an Indian. William was frightened, but he remembered what he should do. He raised his gun and fired. A loud whoop rang out as the Indian came tumbling down. The men of the wagon train heard the shot and the whoop. They came running to help William, but the boy needed no help. He had known how to help himself.

1 In this story the writer wants to show that
   A the Indians were brave
   B William could help himself
   C William could not walk fast
   D the men helped William

2 The writer thought that
   E Indians were poor riders
   F Indians were braver than white men
   G the Indians were afraid of William
   H Indians were dangerous

3 How did the story say William felt when he met the Indian alone?
   A Frightened
   B Angry
   C Happy
   D Sorry

4 Why does this story need the third paragraph?
   E So you will know that William was brave
   F To show how fast the train was moving
   G So you will know why William had to shoot the Indian himself
   H To show you that the men were running away from the Indians

5 This is a good story because
   A it teaches you all about Indians
   B it teaches you how to shoot Indians
   C it shows how frightened the white men were
   D it is very exciting

THE HENS

The night was coming very fast; It reached the gate as I ran past.

The pigeons had gone to the tower of the church,
And all the hens were on their perch,
Up in the barn, and I thought I heard
A piece of a little purring word.

I stopped inside, waiting and staying,
To try to hear what the hens were saying.

They were asking something, that was plain,
Asking it over and over again.

One of them moved and turned around,
Her feathers made a ruffled sound,

A ruffled sound, like a bushful of birds,
As she said her little asking words.

She pushed her head close into her wing.
But nobody answered anything.

6 What sound that hens make does the poet tell you about?
   E Ruffling
   F Cackling
   G Crowing
   H Scratching

Go on to the next page.
7 What does the poet make believe the hens are doing?
A Going to sleep  
B Asking little questions  
C Moving and turning around  
D Sitting on their perches

8 Where did the pigeons sleep?
E In the barn  
F With the hens  
G In the church tower  
H On their perches

9 At the end of the poem, the poet is
A in the church  
B remembering the gate  
C leaving the tower of the church  
D looking at just one hen

10 The person in the poem will never
E know what the hen really meant  
F visit the hens again  
G run past the gate  
H stop in the barn again

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**LET’S PLAY INDOOR HORSESHOES**

This exciting indoor game is played somewhat like horseshoes. Instead of real horseshoes, however, you use two men’s shoes and a supply of pop-bottle tops. Any number of people can play the game.

Borrow a pair of dad’s old shoes and place them at one end of the room, side by side. The toes should be pointing away from the wall. Each player has two bottle tops which he should mark with his initials so he can be sure to recognize them.

Players take turns trying to pitch their two bottle tops into the shoes from a distance of about six feet. To make sure everyone stands the same distance away, you can place a small object on the rug to mark the spot where the player stands. After everyone has had a turn, here is how you score the game.

A bottle top inside a shoe is called a “ringer.” It counts five points. A bottle top touching a shoe is called a “leaner” and counts three points. If there are no ringers or leaners, the person whose bottle top is closest to a shoe gets one point. If his other bottle top is also closer to a shoe than any of his opponents’ tops, he scores two points.

After the scores have been written down, players pick up their bottle tops and take turns pitching again. The first person to reach 21 is the winner.

11 When playing this game, you must first
A choose up sides, then pitch  
B place the shoes, and mark the spot where the players stand  
C make everyone stand the same distance away  
D score the points after each player’s turn

12 A player gets a score of two points if
E both his tops are closer to a shoe than any other tops  
F he gets a ringer  
G he gets a leaner  
H one of his tops touches some other player’s top

13 A “leaner” is
A a player who leans over to pitch the bottle top  
B someone who is playing for the first time  
C a bottle top that leans against another top  
D a bottle top that touches a shoe

14 The writer of this story is trying to tell you how to
E play a new game  
F play a game with horseshoes  
G win a game  
H beat the other fellow at horseshoes

15 The writer does NOT tell you
A whether players take turns  
B how to score the game  
C what to do when there is a tie  
D where to place the shoes

---

Go on to the next page.
Dear Pen Pal,

I have two little sisters. Kathy Ann is 5 years old and Myra is 1½.

We have a canary. His name is Chris. He is supposed to be a singer, but he doesn’t sing pretty. But he is a cute pet. We leave his cage door open on the back porch some days and he flies around in the porch. Some days he comes into the kitchen and eats lettuce, celery leaves, turnip greens, and the leaves of Mother’s flowers. He sometimes takes a bath in the dishpan and sometimes in the fish bowl with the two gold fish. One day while we were eating lunch he flew to the table and stood on the side of the bowl of potato salad. He usually lets Mother catch him when she wants to. He goes into his cage by himself at night.

Your friend,
Larry Arnold

16 What can you guess about mother when she tries to catch Chris?
E She can never catch him.
F She always needs help from Larry.
G Sometimes she can’t catch him.
H She can always catch him.

17 What was Larry doing when Chris stood on the salad bowl?
A Feeding the fish
B Eating lunch
C Feeding his younger sister
D Bathing Chris

18 How does the bird sleep in his cage at night?
E On his perch
F On the bottom of the cage
G With his head under his wing
H The letter doesn’t tell us.

19 The second paragraph in the letter is mostly about
A the canary
B the goldfish
C the sisters
D pen pals

20 Why does Larry tell about the dishpan and the fish bowl?
E They are things that are hard to keep clean.
F They are funny places for a canary to be.
G Chris sang only in them.
H Chris always ate in them.
What a bustling place is a modern railroad yard with its scores of tracks and switches and hurrying workers! There are storage tracks for incoming freight, tracks for sorting freight, and tracks on which trains which are to go to other cities are made up. To us it looks like a hopeless puzzle as cars are moved backward and forward and from one track to another, but it is really an orderly job, carefully planned by the yardmaster and the switchmen. The "empties," as the empty freight cars are called, are put in one place. The loaded cars are sorted according to the place they are going and whether they are to travel by fast or slow freight. Hour after hour the work goes on until all the cars are on the right tracks; meanwhile more trains are arriving to keep the process going. Trains come rumbling into some yards at the rate of one every ten minutes, so there is no time to rest. If the work in the yards did not go on, soon every track would be jammed so full that nothing could move. Some trains must pull out so that the others can pull in.

There are also the problems of getting borrowed cars returned to their own railroads and loading them whenever it is possible. There must be no "empties" standing around on their own tracks, for empty freight cars mean money lost. Surely a yardmaster must have a very wise head, and capable men to help him, to keep everything running smoothly.

21 At the beginning of the story, the writer tells us
A that trains make a lot of noise
B mostly about empty cars
C that a railroad yard is a busy place
D that empty cars mean lost money

22 Trains are allowed to enter the yard
E only after other cars are on the right track
F all the time
G when the men begin work in the morning
H every half hour

23 Cars are sorted according to
A size
B whether the freight will spoil
C where they are going
D what time they came into the yard

24 One title for this article might be "Freight Cars." A better title would be
E "The Yardmaster's Job"
F "Where Freight Cars Go"
G "The Problem of Empty Cars"
H "How Freight Cars Are Stored"

25 When the writer says "hour after hour the work goes on" (line 15), he wants us to think that
A one car moves every hour
B the switchmen wait a long time for the trains
C most of the work is done at night
D men in the yard work all the time
A SAFETY PLAY

1 Doctor: Good morning, Nurse. Have any children come to our school clinic today?
Nurse: None so far, Doctor.
Doctor: No colds, no sniffles,
No measles, no mumps?
No scratches, no bruises,
No scrapes, no bumps?
Nurse (shaking her head): But, with all the careless children we have in this school, we shall probably have some accident cases to patch up before the day is over.
Doctor: Well, I’ll be in my office if anyone needs me. (goes out)

Gene (enters, left): Oh dear, oh me!
Nurse: What happened to you?
Gene: I’m nothing but a mass of burns.
Both hands are red and sore.
I lit a match near some old trash
Down on the basement floor.

Nurse: Hereafter, never play with matches!
And always keep the basement cleared of trash. Go in to see the doctor, and he will fix you up. (Gene goes out, right)

Carol (comes in, left): Oh, oh, this is dreadful!
Nurse: What happened to you?
Carol: I slid upon a cake of soap
In the bathroom tub today,
And now I have so many hurts
That I can’t work or play.

Nurse: After this, never leave soap in the tub or on the floor of a shower. Now go in to see the doctor, and he will fix you up. Then come back to see me.
(Carol goes out, right)

Nurse: They really are a sorry lot,
And all because each one forgot.
Together: We’ve given you these safety tips,
And hope you’ll be the gainer.
If you’ll just follow them at home,
Your life will be much saner.
This is the end of our play, friends.
We wish you joy and laughter.
We hope you’ll keep the rules, and live Happily ever after!

Go on to the next page.
How A Camera Operates

A camera works very much like the human eye. The light from an object—a tree for example—first enters the human eye through a tiny lens in front of the eye. This lens focuses an image of the tree on the back of the eye, where a bundle of little nerves carries the image to the brain. A camera also has a lens in front. If the camera is pointed at a tree, the lens will focus an image of the tree on the back of the camera where the film is placed. When the film is developed and printed, the finished product is called a photograph. The word “photograph” comes from the Greek photos (a form of the word meaning “light”) and graphe (meaning “writing”). Photography is exactly that—writing (or drawing) with light.

Here is a simple experiment that will show you clearly how a camera operates. Take off the back of your camera. Then use a rubber band to hold a piece of tissue paper across the open back of your camera. Close the shutter, throw a dark cloth over your head, open the shutter, then point the lens of the camera at a well-lit scene. The light reflected from the scene passes through the hole and throws a picture of the scene on the tissue paper. The rays of light cross as they pass through the hole. This makes the image upside down when it strikes the paper. The image in the human eye is formed the same way.

31 The best title for this selection would be
A “The Human Eye is a Camera”
B “How a Camera Operates” (as it is now)
C “How to Build a Simple Camera”
D “Experimental Photography”

32 When does the writer compare the eye and the camera?
E While he is describing the experiment
F Throughout the article
G Mostly toward the end of the article
H At the beginning and at the end of the article

33 The article says that before putting the tissue paper on the camera, one should
A point the camera at a scene
B open the shutter
C take off the back
D close the shutter

34 The writer tells us the meaning of the Greek words photos and graphe because
E he wants us to be interested in Greek
F they show that the eye is really a camera
G they make the experiment easier to do
H they help explain how pictures are taken

35 Which of the following is NOT explained in the article?
A How to do an experiment with a camera
B Why a dark cloth is necessary
C How the camera and the eye are similar
D Why the image on the paper is upside-down

STOP

Stop. If you finish before time is called, check your work on this part. Do not go on to Part Two until you are told to do so.

DIRECTIONS FOR PART TWO

Part Two contains the same kind of material as Part One. Mark your answers in the same way.

Do not turn this page until you are told to do so.
PART TWO

Trees are big plants. They grow from seeds. A tree has many parts. It has a trunk. The trunk is the biggest part of a tree.

A tree has branches. Some of the branches are big. Some of the branches are little.

A tree has leaves. In summer, tree leaves are green. In autumn, some leaves turn red and yellow.

Some tree leaves fall off in autumn. They fall off when the tree stops growing. The tree stops growing when it cannot get enough water.

We cannot see all of a tree. We cannot see the roots of a tree. The roots are under the ground.

A tree has many roots. It has almost as many roots as it has branches. The roots get water for the tree. They also get something from the soil with which the tree makes food. The water and food make the tree grow. The roots also keep the tree from blowing over.

Trees are beautiful. They help make school grounds and houses look pretty.

Trees make shade in the summer. They shade your house. They keep your house cool. They keep you cool, too.

1 This story is all about
   A branches
   B trees
   C roots
   D school grounds

2 We like trees because
   E they are big
   F they grow big and tall
   G they have leaves
   H they are beautiful

3 The parts of a tree are talked about in this order:
   A leaves, branches, trunk, roots
   B trunk, branches, leaves, roots
   C roots, trunk, branches, leaves
   D branches, leaves, roots, trunk

4 In the last part of the story, we are told about
   E how trees help us
   F a tree in the forest
   G a branch on a tree
   H how trees lose leaves

5 This is a good story because it tells us
   A about animals
   B that we see the whole tree
   C a lot about trees
   D that trees are good food

Dear Bill,

It was fun to be on the farm. Yesterday morning, Jack and I watched Aunt Mary make butter. She did not need to use all her cream to make butter. She sent most of the cream to the creamery.

I wish I were a farmer. I would take just a little cream for butter. Then I would use all the rest of the cream to make ice cream. Wouldn’t that be fun?

I’m sorry you could not go to Jack’s farm with me. I had the time of my life. Every day, Jack kept finding some new thing to do.

We rode Jack’s horse. We worked around the barn. We fed the animals. We gave corn to the hogs in their pen. What a noise a hog can make! We gave hay to the horses and the sheep and the little lamb.

I came back to town yesterday. I must say good-by for now. Write soon.

Your cousin,
Betty

6 In this letter, Betty is trying to tell
   E how to make butter
   F what she did at the farm
   G what horses eat
   H how much noise a hog makes

7 In the first part, Betty tells about
   A how the creamery makes butter
   B Betty and Jack making butter
   C where cream comes from
   D Aunt Mary making butter

Go on to the next page.
8 Which of these things that Betty said tells best how she feels about living on a farm?
E We worked around the barn.
F I came back to town yesterday.
G I wish I were a farmer.
H We rode Jack’s horse.

9 The letter is happy EXCEPT where Betty is
A saying Bill couldn’t come
B telling about riding the horse
C having to say good-by
D telling about the cream

10 Where does Betty live?
E In the mountains
F On a farm
G Near the ocean
H In a town

---

MY BROTHER, JOHN HENRY

1) I have such a wonderful brother.
   John Henry is his name.
   Whatever I want to play, he’ll play;
   He likes just any old game.

2) If we decide on a game of ball,
   John Henry lends his bat;
   And if it’s marbles, he’ll lend those, too.
   John Henry’s just like that.

3) Whenever I say, “Let’s go to the creek
   And catch the tadpoles there,”
   He goes along and helps dam them in,
   Ready to do his share.

4) If I decide to sit and rest,
   Just watch the sun on the grass,
   He’ll sit with me there and talk and talk,
   Helping the time to pass.

5) We tell each other exciting tales
   Of pirates bold at sea.
   It’s my turn first. I talk a while;
   Then John tells tales to me.

6) Now whoever saw a boy like this,
   So good, with manners mild?
   No one has seen him. I made him up,
   For I am an only child.

11 John Henry and the poet seem to decide things
   A at different times
   B in different ways
   C together, easily
   D by fighting over them

12 John Henry will probably never
   E give the poet any help in fishing
   F lend the poet his bat
   G fight with the poet
   H lend the poet any marbles

13 John Henry likes
   A ball playing best
   B any game at all
   C fishing best
   D sitting best

14 The poet is trying to say that John Henry is
   E a perfect playmate
   F a dull person to be with
   G a fellow who must have everything his own way
   H a fellow who tattles

15 The poet tells you who John Henry really is in the
   A first verse of the poem
   B fourth verse of the poem
   C fifth verse of the poem
   D sixth verse of the poem

Go on to the next page.
Everyone was talking at once and scrambling over everyone else, trying to find things. "Who did it?" they asked Miss Phillips.

"You did!"

"Oh, no, we didn't!" the children responded.

Miss Phillips nodded slowly and explained. "It's this way. You haven't done all these things at one time, but every one of you has done some of these things sometime, haven't you? Borrowed a pencil or book without permission, misplaced someone's wrap, mixed up someone's papers?"

The boys and girls looked thoughtful, for they, too, knew they had done these things.

They listened carefully as Miss Phillips went on: "You didn't notice when it was just one book or pencil. I wanted you to see what it would be like if everyone were careless all at once. After school I mixed up all your things to show what would happen if our room were like this all the time."

Everybody looked at everybody else. Finally David said, "We couldn't study."

And Jean added, "We wouldn't know where anything was."

"I wouldn't like it!" declared Ronald.

"Now you see why people have rules about property," Miss Phillips pointed out, "so perhaps we need a few rules in our class."

"I know!" called out Ricky. "Let other kids' things alone."

"Don't borrow without asking," said Jean.

And the school children decided never to have a mixed-up room again.

16 The children in the classroom

E listened carefully as Miss Phillips explained the mix-up

F were angry when they found out who had mixed up things

G never found out who had mixed up things

H didn't want to make any rules

17 What was the teacher trying to teach the children?

A To stay in their seats most of the time

B To be more careful about other persons' things

C Not to borrow things from other children

D Not to mix up the room again after school

18 How does the writer tell us this story?

E By letting each person in the story tell his part

F By telling it himself

G By letting the teacher tell it

H By none of the above

19 How did the story of the mixed-up room end?

A The class talked about the mixed-up room.

B The children straightened out everything.

C The children told the teacher they were sorry.

D The class made some rules so that things wouldn't get mixed again

20 Which one of these rules did the children forget to make?

E Let other children's things alone.

F Don't borrow without asking.

G Return something when you borrow it.

H They remembered to make all the above rules.
The Railroad Ghost

It was a spooky sort of night. As the train raced along, fog began to close in around it. It was just the sort of night one would expect to meet a ghost.

Now, running a train isn’t easy any time, but on this particular evening it was really hard work. Even with the powerful headlight stabbing the darkness ahead, the engineer had to strain his eyes to see the track.

Suddenly, dead ahead, a figure in a black cloak stood in the middle of the tracks waving its arms frantically! The engineer brought the express to a screeching halt. The trainmen searched and called. But there was no sign of the mysterious figure who had flagged their train. Even the engineer was almost convinced that it had been somebody’s poor idea of a joke.

Just to play safe, he swung down from his cab and walked up the tracks. Suddenly, his face grew pale and his heart beat wildly. There, ahead of the stopped train, he found a washed-out bridge.

Not until the train reached London safely was the strange mystery solved. The engineer found a huge dead moth lying at the base of the locomotive head lamp.

Then he did a strange thing. He wet the wings of the moth and carefully pasted it to the glass of the head lamp. Then he climbed back into the cab of his engine and switched on the light.

"Ah!" he cried triumphantly. "I thought so!" For as the bright beam stabbed ahead into the darkness, there appeared once again the "ghost" the engineer had seen earlier. But now the "arms" weren’t waving wildly. They were still.

21 In the first paragraph, the writer is trying to
A explain how the engineer feels
B give you a feeling for what is going to happen
C explain what a ghost is
D start you thinking about trains

22 This writer wants you to feel
E frightened
F happy
G sad
H angry

23 The mysterious figure seen by the engineer was
A a live person in a black cloak
B a dead person in a black cloak
C just imagined
D a moth’s shadow

24 From this story we do NOT know
E how the engineer felt when he saw the washed-out bridge
F whether the train finished its journey
G how the bridge was fixed
H any of the above

25 How did the engineer find out who the mysterious stranger was?
A He pasted the moth on the light and turned the light on.
B He picked the moth up and studied it.
C He pasted the moth on the light.
D He pasted the moth on the light and it waved its arms.
Edison’s Birthday Committee (sponsored by Edison Pioneers) has announced an Edison Essay Contest in honor of the great inventor’s discovery of the first successful electric light.

The subject of the essay is “Why We Should Remember Edison’s Birthday, February 11th.” Essays of from 500–700 words may be entered by children in the 4th, 5th, 6th, 7th, and 8th grades and must follow the rules published by The Edison Birthday Committee. The completed essays will be submitted through teachers in schools that have registered with the Committee.

**First Prize**
**Gold Edison Medal and $500 U. S. Savings Bond**

The national winner will receive the Gold Edison Medal and a $500 U. S. Savings Bond. Presentation will be made at the luncheon meeting of Edison Pioneers to be held at the Waldorf-Astoria Hotel, New York, February 5. Winner and a parent or guardian will have expenses paid to West Orange, New Jersey, and New York City. *Children’s Digest* will publish the winning essay in the July-August issue.

In addition to the Gold Edison Medal, four Silver Edison Medals will be awarded (by mail) to the authors of the four runner-up entries. In every participating school, a Certificate of Award will be given to the writer of the best essay in each of the five eligible grades. Essays must be mailed by the school to the Committee’s judges before December 10. Winners will be announced January 20.

26 The purpose of the essay contest is
E to award prizes for the five best essays
F to present a birthday gift to Edison
G to collect essays about Edison’s birthday
H to honor the man who made the first electric light

27 You can tell that the first prize will be given before Edison’s birthday because the announcement
A says so in the second paragraph
B gives both the date of the award and the birthday
C hints at it in the first paragraph
D says so in the last paragraph

28 Why is the first prize described in capital letters?
E The author wants schools to register.
F It is more important than the subject of the essay.
G People should buy savings bonds.
H It is the most important prize.

29 How is a fourth-grade pupil likely to do in the contest?
A He can’t win; he is too young.
B The rules are too hard for him.
C He can win one of the prizes for his grade.
D He can win a Certificate of Award only if he is brighter than the eighth-grade pupils.

30 The announcement does NOT tell us
E whether teachers may help the pupils
F how many prizes will be given
G to whom the essays must be sent
H how long the essays should be
Suddenly the whale opened its huge mouth. The creature made a queer rumbling, bubbling noise. A great grayish-white mass slid from his mouth, and floated slowly shoreward with the tide.

The whale shuddered. Then his great tail smacked the water, and his body seemed to lunge backward. He moved with surprising ease. Turning about, he headed out to sea. In another moment he disappeared, only to come up again much farther away. His spout shot up as if in farewell.

"Good-by, Mr. Whale!" Cal shouted. He turned to Uncle Gulliver triumphantly. "See, he just came back to say 'thank you' for getting the Coast Guard to haul him off the ledge yesterday. That noise he made was his way of saying 'good-by.' Hey! Uncle Gulliver! What you looking at? Where you going?"

But already Uncle Gulliver was far down the ledge, slipping and sliding in his haste.

Cal followed nimbly. He came up with Uncle Gulliver who was bending curiously over an unpleasant-looking mass of grayish waxlike stuff.

"Foo! That smells!" Cal pinched his nose. "What's that stuff?"

"That, my boy," said Uncle Gulliver, straightening up and turning a beaming face toward Cal, "is your whale's thank you. It's the biggest hunk of ambergris I've ever even heard of! That smelly mess right there is worth thousands of dollars," Uncle Gulliver declared. "I can hardly believe my eyes."

Cal snickered. "You're kidding."

"No! I'm serious!" Uncle Gulliver explained patiently. "A small quantity of this ambergris makes the odor stay in perfume. That's why perfume manufacturers are wild to get hold of ambergris. So when your whale bid you an affectionate good-by, he really left you a gift that's worth something!"
Sequential Tests of Educational Progress

Science
General Directions

This is a test of some of the understandings, skills, and abilities you have been developing ever since you first entered school. You should take the test in the same way that you would work on any new and interesting assignment. Here are a few suggestions which will help you to earn your best score:

1. Make sure you understand the test directions before you begin working. You may ask questions about any part of the directions you do not understand.

2. You will make your best score by answering every question because your score is the number of correct answers you mark. Therefore, you should work carefully but not spend too much time on any one question. If a question seems to be too difficult, make the most careful guess you can, rather than waste time puzzling over it.

3. If you finish before time is called, go back and spend more time on those questions about which you were most doubtful.
DIRECTIONS FOR PART ONE

Each of the questions or incomplete statements in this test is followed by four suggested answers. You are to decide which one of these answers you should choose.

You must mark all of your answers on the separate answer sheet you have been given; this test booklet should not be marked in any way. You must mark your answer sheet by blackening the space having the same letter as the answer you have chosen. For example:

0 Which one of the following is an animal?
A Bed
B Dog
C Chair
D Box

Since a dog is an animal, you should choose the answer lettered B. On your answer sheet, you would first find the row of spaces numbered the same as the question—in the example above, it is 0. Then you would blacken the space in this row which has the same letter as the answer you have chosen. See how the example has been marked on your answer sheet.

Make your answer marks heavy and black. Mark only one answer for each question. If you change your mind about an answer, be sure to erase the first mark completely.

Do not turn this page until you are told to do so.
PART ONE

FUN AT CAMP

Jack, Bobby, Joe, and Harry went to a summer camp. At the camp many interesting things happened to them.

1 Early one morning as the boys hiked through the fields, their feet became very wet. The night had been cooler, but there had been no rain. They wondered where the water on the grass came from. Which boy gave the right answer?
   A Jack said the water came from the soil under the plants.
   B Bobby said the water came from the leaves of the plants.
   C Joe said the water came from the clouds over the plants.
   D Harry said the water came from the air around the plants.

2 Late one afternoon, the boys watched a thunderstorm from the game room. After each flash of lightning they heard thunder. They talked about it and wondered why the lightning came first. Who was right?
   E Jack said it was because the lightning flash hits the earth.
   F Bobby said it was because light travels faster than sound.
   G Joe said it was because the thunder is slowed down by the clouds.
   H Harry said it was because the lightning is reflected from the clouds.

3 The storm caught a group of hikers in the middle of a large open field far from camp. The best thing for the boys to have done to keep from being hit by lightning would have been to lie flat on the ground. This would help to protect them from lightning because
   A lightning usually strikes the high points
   B the wet grass would protect them from the electricity
   C water does not conduct electricity
   D they were tired and could not run for the trees

4 The boys came out of the water after swimming one windy day. In order to get dry most quickly, they should have
   E stood in the shade and let the wind dry them
   F stood in the sun to dry
   G rubbed themselves dry with towels
   H played a game of tag

5 Harry wondered if sound is able to travel through water. To prove that sound can travel through water, he should
   A ask his lifeguard or parents
   B hit two stones together above the water of the lake and listen to the sound
   C put his ear next to the water of the lake and hit two stones together above the water
   D put his head under the water of the lake and hit two stones together in the water

6 Jack was curious about the birds and wondered whether many of them stayed near the campgrounds through the winter. If Jack could do as he pleased, what would be the best way to find out which birds stayed near the campgrounds?
   E Study the birds which are near the camp at different seasons.
   F Read a book about birds that migrate.
   G Watch the birds through binoculars to study their flight.
   H Talk to people who live near the camp.

7 On one of their hikes, the boys found their path blocked by a fallen tree. When they walked on it, the tree fell apart under their feet. This happened because
   A the tree trunk was small
   B the tree was dead
   C the inside of the tree had rotted away
   D the tree had soaked up a lot of water from the ground

Go on to the next page.
SICK IN BED

One cold winter day, Jane didn’t feel well and was very cross. Mother kept her home from school, so her brother Bill went to school without her. When Mother looked at Jane’s throat, she found that it was red and sore.

Mother wondered if Jane had a fever. The quickest way for Mother to learn if Jane had a fever was to

- feel Jane’s head
- ask Jane if she felt hot
- look at Jane’s tongue
- look at Jane’s eyes

Mother found that Jane had a fever. She knew this because the thermometer

- read below 98 degrees
- read 98 degrees
- read 101 degrees
- did not change its reading in Jane’s mouth

Mother kept a record of Jane’s temperature for two days. This is the way the record looked:

<table>
<thead>
<tr>
<th></th>
<th>Morning</th>
<th>Noon</th>
<th>Night</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>101°</td>
<td>101°</td>
<td>102°</td>
</tr>
<tr>
<td>Tuesday</td>
<td>100°</td>
<td>99°</td>
<td>98°</td>
</tr>
</tbody>
</table>

From the chart you can tell that Jane’s temperature was highest at

- noon on Monday
- night on Monday
- noon on Tuesday
- night on Tuesday

When Bill came home from school, Mother looked at his throat and took his temperature, too. Mother did this because

- children often catch a disease from someone who is ill
- Bill went to school with other children
- it was cold outside
- Bill’s shoes were wet from playing in the snow

Jane called to Bill from the bedroom, “Please come sit here on my bed and play with me.” Mother would not let Bill be close to Jane because Jane was

- cross
- coughing and sneezing
- unhappy
- younger than Bill

BICYCLE RIDE

Before taking a ride on his bicycle, Tony always inspected it. One day he found that his front tire was soft. He used his hand pump to put more air in the tire. After a while he found that it became harder to use the pump. This was because the

- air in the tire pushed against the pump
- air started to leak out of the pump
- pump got too hot to hold
- pump got too sticky to push

While Tony was inspecting his bike, he also looked over the wheels. Why did he run his fingers over all the spokes?

- To straighten the bent spokes
- To find out from the sound of the spokes if they were tight
- To loosen up the tight spokes which were making the wheel wobble
- To make the spokes more springy for the ride

One day it suddenly started to rain while Tony was riding his bike. In order to get home quickly and safely, which one of these things should he NOT do?

- Put the brakes on gradually before making a turn.
- Slow down at crossings to make sure there are no cars coming from other directions.
- Stay on the proper side of the road.
- Ride close behind a truck to keep off the rain.

Go on to the next page.
16 Tony's tires became smooth. All the tread was worn off. What is the best reason why he should get new tires for his bicycle?
E To improve the looks of his bicycle
F To help him stop more quickly
G To help him travel faster on level ground
H To help him travel faster going downhill

17 Father told Tony he should always wear white shirts or white sweaters when he rides his bicycle at night. White clothing is best because it
A is cooler than dark clothing
B is warmer than dark clothing
C reflects light better than dark clothing
D is cleaner than dark clothing

The Jackson Garden
Tom and Alice Jackson help to plant a garden every spring.

18 They have many kinds of garden tools. What is the main job of the tools which are wedge-shaped like the drawing?
E Breaking up soil
F Flattening soil
G Moving soil
H Packing down soil

19 After they bought seeds and prepared the soil, they got some string and stakes to mark out the rows. How should they decide the distance to leave between the rows of seeds?
A Leave room to walk between the rows.
B Follow the instructions on the seed package.
C Leave 12 inches between the rows of plants.
D Find out how tall a plant grows.

20 Tom and Alice decided to plant carrots in their garden. Tom read from the back of the package of carrot seeds these planting instructions: “Make sowings every two weeks up to early July; the last sowing will make full-sized roots for winter storing.” Why do you think the package said to plant several times instead of only once?
E Because the temperature changes throughout the summer.
F Because the amount of rainfall changes from week to week.
G So that all the carrots would be full grown at one time.
H So that the gardener could have fresh carrots all summer long.

21 Then Tom read, “When the plants come up, thin them so that they are 2 to 3 inches apart in the row.” Tom asked his father, “Why must I pull out some of my good carrot plants?” Which of these answers do you think his father gave?
A The soil has too little plant food in it.
B Many carrots grow in different shapes.
C Carrots need the additional room underground to grow and store food.
D Some carrots are dwarf and some are giant carrots.

22 Which method would be best for Mother to use to keep several carrots when she brings them in from the garden?
E Wrap them tightly in a plastic bag.
F Place them in the home freezer.
G Store them in a dry part of the kitchen.
H Put them in a plastic bag in the refrigerator.

Go on to the next page.
23 Tom wanted to learn which of three types of soil—clay, sand, or loam—would be best for growing lima beans. He found three flowerpots, put a different type of soil in each pot, and planted the same number of lima beans in each. He placed them side by side on the window sill and gave each pot the same amount of water.

The lima beans grew best in the loam. Why did Mr. Jackson say Tom’s experiment was NOT a good experiment and did NOT prove that loam was the best soil for plant growth?

A The plants in one pot got more sunlight than the plants in the other pots.
B The amount of soil in each pot was not the same.
C One pot should have been placed in the dark.
D Tom should have used three kinds of seeds.

24 Tom saw that moist clay stuck together tightly and dry clay was almost as hard as rock. The clay held the water so that the water did not run through. Why didn’t the plants in the clay soil grow as well as the plants in the loam?

E The roots lacked air and rotted.
F The clay was dark in color.
G The clay dried and cracks were formed.
H There were no earthworms in the clay.

25 Tom and Alice watched the birds in their garden. Some of the birds they saw in the summertime were not in the garden in winter. They wondered what happened to them. Which of their friends gave the best answer?

A Jack said, “The birds die because in winter there are no insects to eat.”
B Bill said, “Birds only live one summer.”
C Jane said, “The birds sleep all winter in a winter nest.”
D Ruth said, “The birds fly to a winter home in the warmer South.”

26 Jack asked, “If we were really on the moon, how could we keep in touch with each other as we explored?” Which one of the children’s ideas is best?

E Judy said, “Let’s take a garden hose to use as a speaking tube.”
F Phil said, “Let’s find out from Mr. Jones where he got his hearing aid. We could take some of those.”
G Joe said, “Let’s make sure we take enough walkie-talkies with plenty of fresh batteries.”
H Betty said, “Let’s bring along some large megaphones like the cheerleaders use.”

27 After they had landed on the moon, what would they most need to have before they could leave their spaceship?

A Food that would give them plenty of energy
B Warm clothing to protect them from the cold
C Raincoats and rubbers in case of a moon storm
D Tanks of air for their space suits
28 Judy said that she had read that the gravity of the moon is much less than the gravity of the earth. She said that when they land on the moon, they will find it easy to
E jump very high
F light their campfire
G fly their kites
H measure their weights

29 On the imaginary trip, the space travelers decided to go from the moon to Mars. They wondered what kind of life they would find there. Which idea do you think is the best?
A Phil thought that living things on Mars would be similar to those on earth because the atmosphere is similar.
B Alice thought that there would be green-skinned people.
C Joe said that the people who live on Mars would have popping eyes and big heads.
D Judy thought that they wouldn’t know for sure until they got there.

30 The greatest problem for all space travelers would be the problem of
E escaping from the pull of the earth
F taking the right kind of food
G carrying the right clothing
H taking the right kind of fuel to cook their food

Stop. If you finish before time is called, check your work on this part. Do not go on to Part Two until you are told to do so.
DIRECTIONS FOR PART TWO

Part Two contains the same kind of material as Part One. Mark your answers in the same way.
PART TWO

Pets In Class

Miss Damrin's class kept several pets in their classroom.

1 One afternoon they were looking at the beautiful, tiny, tropical fish in the aquarium. Jane asked, "Why is the water heated for these fish?" Which pupil gave the best answer?
   A Tom said, "To keep the water from freezing."
   B Bill said, "To kill harmful germs which might be in the water."
   C Ruth said, "To keep the water clean and clear for the fish."
   D Bob said, "To give the fish the kind of home in which they can best live."

2 For their classroom, Ruth's father gave the children two cages and two little guinea pigs which were the same size. They wanted to find out if dark whole-wheat bread is better for health and growth than white bread. How could they best carry out their experiment?
   E Give both guinea pigs white bread.
   F Give both guinea pigs whole-wheat bread.
   G Give one guinea pig whole-wheat bread and the other white bread.
   H Give one guinea pig whole-wheat bread, and the other no bread at all.

3 Bill's father also gave the class a pair of guinea pigs. The children gave the two guinea pigs different diets. The children weighed their guinea pigs each Friday. They kept a growth record. This is their chart.

From this chart, can you tell what happened to the guinea pigs?
   A Both gained the same amount of weight.
   B Number 1 gained more than number 2.
   C Number 2 gained more than number 1.
   D Number 2 lost weight.

From this chart what was the difference in weight between the two guinea pigs after nine weeks?
   E Number 1 weighed 6 ounces more than number 2.
   F Number 1 weighed 18 ounces more than number 2.
   G Number 2 weighed 6 ounces more than number 1.
   H Number 2 weighed 12 ounces more than number 1.

Mary took one guinea pig home from school and fed him properly over the weekend. The guinea pig lay quiet and rested on the bottom of the cage. Billy took the other one home. He forgot to feed him on Monday morning. The guinea pig was restless, ran around the cage, and bit Billy's finger. What do you think the class learned?
   A Guinea pigs can live for days without food.
   B Guinea pigs sleep when they are hungry.
   C Guinea pigs fight each other for food.
   D Hunger changes a guinea pig's actions.
6 Miss Damrin asked the class, “What kind of animal do you think scientists must use in their work when they are trying to learn more about foods, drugs, and the health of people?”
E An animal that is cheap
F An animal that is small and easy to keep in the laboratory
G An animal that lives a long time
H An animal similar in structure to people

7 Miss Damrin said, “Dogs, cats, rabbits, mice, and guinea pigs are members of the same group of animals.” Why is this true?
A They can all make noises and protect themselves from enemies.
B They can all feed their babies with milk from the mothers’ bodies.
C They can all breathe and move.
D They can all eat food and grow larger.

---

**Making Candy**

One cold rainy afternoon, Bob and Mary decided to make candy. They needed sugar, water, butter, chocolate, and nuts.

8 Mary heated and stirred two cups of water and four cups of sugar in a pan. What do you think happened to the sugar?
E All the sugar dissolved in the water.
F None of the sugar dissolved in the water.
G The sugar and water together made about six cups of mixture.
H The sugar melted.

9 Mary put two squares of hard, bitter chocolate into the boiling mixture. Tom added four tablespoons of butter at the same time. Even though the amount of chocolate and the amount of butter was about the same, the butter melted before the chocolate. This happened because
A heat melts some solid things to liquids.
B each kind of solid needs a different amount of heat to make it melt.
C some solids melt in boiling water.
D the butter was warmer than the chocolate.

10 Mary heated the candy in the pan for 10 minutes after it began to boil. What happened to the mixture?
E It became a heavy syrup.
F It became very thin and watery.
G It became hotter after it boiled.
H Nearly all of the mixture boiled away.

11 Bob spread a thin coat of butter on his saucer. Mary did not. They poured the candy on the plates. What happened to the candy?
A Bob’s candy stuck to his plate.
B Both children’s candy stuck to their plates.
C Mary’s candy stuck to her plate.
D The butter spoiled the candy.

12 The children set their plates of candy outside in the cold air. They did this because cold
E keeps the candy from sticking to the plate.
F makes many liquids become solids.
G keeps candy fresh longer.
H makes the water in the candy disappear.

Go on to the next page.
A Trip To A National Park

The Taylor family spent their vacation at a lodge in a national park. The forest ranger showed the visitors at the lodge this graph:

<table>
<thead>
<tr>
<th>Natural Resources We Have Used</th>
<th>Natural Resources We Have Left</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Soil 33%</td>
<td>67%</td>
</tr>
<tr>
<td>Forests 76%</td>
<td>24%</td>
</tr>
<tr>
<td>Hard Coal 29%</td>
<td>71%</td>
</tr>
</tbody>
</table>

13 The graph shows that we have most nearly used up our
A top soil
B hard coal
C forests
D oil

14 From the graph can we tell about how much of our rich top soil has been used up?
E All of it
F One-third of it
G One-half of it
H None of it

15 The ranger said every one must help conserve America's resources. By this he meant
A to use none of the resources
B to use all of the resources
C to use the resources wisely
D to sell the resources

16 The ranger showed the family the best way make a campfire. First he
E loosely piled long, dry twigs into a cone shape
F cleared brush and leaves from a space
G placed large pieces of dry wood in a pile
H poured gasoline on a pile of wood

17 The ranger said that boys and girls can help to prevent forest fires by never leaving a campfire while it is burning and by putting out the campfire. They can best put a campfire out by
A stamping on the ashes of the fire
B fanning the ashes of the fire with a newspaper
C putting water or soil on the ashes of the fire
D scattering the ashes of the fire

18 The forest ranger said that the weather bureau also helps fight forest fires. This is true because
E weather forecasts tell the temperature of the air
F weather forecasts tell the condition of the sky
G weather forecasts tell the direction and speed of the wind
H weather forecasts tell the time of sunrise and sunset

19 The ranger told the children that another way the weather bureau helps to prevent forest fires is by keeping a record of the amount of rainfall. This is true because
A much rainfall warns us that the forest will be wet
B little rainfall warns us that the forest will be dry
C much rainfall makes trees grow tall faster
D much rainfall makes seeds begin to grow

20 The forest ranger asked the family not to pick the wild flowers in the national park because
A many wild flowers are poisonous
B wild flowers wither and die very quickly after they are picked
C flowers make seeds from which new plants grow
D bees need the honey from wild flowers
The Playground

Betty and her little brother, George, lived near the playground in the park. One day Betty took him to the playground.

21 George wanted to seesaw with Betty. Which picture shows the best way for Betty who weighed 100 pounds to balance George who weighed 50 pounds?

- Picture A
- Picture B
- Picture C
- Picture D

22 Betty saw the different slides on the playground and decided to try one. On which of the following slides would she be going the fastest at the end of her ride?

- Picture E
- Picture F
- Picture G
- Picture H

Go on to the next page.
23 George played with a big rubber ball in the wading pool. He pushed it to the bottom of the pool. It came right back up. He asked his friends why it did this. Which boy gave the best answer?
A Tom said, "The ball floats because it is made of rubber which is light."
B Bill said, "The ball floats because it is big and round."
C John said, "The ball floats because it is made of waterproof rubber."
D Joe said, "The ball floats because it is hollow and filled with air."

24 Betty's dog jumped in the wading pool. He swam all the way across with the tip of his nose just above the water. Betty asked her friends why her dog couldn't swim underwater like the fish swam in the park pond. Which is the best answer?
E "Fish have tails and fins which help them swim."
F "Fish have scales on their bodies."
G "Fish have gills which take oxygen from water."
H "Fish have streamlined bodies."

25 George liked to play in the sandbox. The sand glistened in the sunlight. Betty said that sand is useful to people in the making of glass. George wondered how you could see through sand. How do you think sand can be used to make glass?
A By separating all the glistening, shining grains from the sand
B By adding chemicals to the sand and heating it
C By washing away the dirt from the sand
D By grinding it into finer grains of sand

THE DAIRY

Helen's class had been studying about foods. They were pleased when Helen's father invited the class to visit the dairy in which he worked. He met the class at the dairy and took them on a tour through it.

26 The class saw thousands of milk bottles being washed in a machine. The class was asked what they thought was the dairy's most important problem in washing the bottles. Which do you think it is?
E To keep the bottles from breaking
F To kill germs in the bottles
G To make the bottles look clean
H To wash the bottles quickly

27 John saw that the cases of empty milk bottles were put on a moving belt. This belt carried the cases to the second floor where the bottles were filled. The most important reason for using the moving belt is that
A fewer people are needed to do the job
B it breaks few bottles
C it keeps the bottles clean
D it makes the dairy a quieter place in which to work

28 One of the wheels on the machine carrying cases of bottles started to squeak. A man put oil on the wheel. Which is the best reason for doing this?
E Oil cleans the wheel.
F It will prevent the machine from wearing out so soon.
G It will make the machine safer to operate.
H All moving metal parts need oiling every day.

Go on to the next page.
29 George said that his doctor had told him that milk may carry the germs of tuberculosis. The best way for you to make sure your milk is free from disease-giving germs is to

A drink only cold milk
B drink only milk from nearby farms
C drink only raw or unpasteurized milk
D drink only pasteurized milk

30 Betty told the class that she had heard that pasteurized milk would never turn sour. Some of her classmates were uncertain about this. The best way to find out would be to

E ask the man in charge of the dairy and accept his answer
F look up the answer in a dictionary
G let the class vote on the question and accept their opinion
H put a bottle of pasteurized milk on the window sill and look at it every day

If you finish before time is called, you may check your work on either Part One or Part Two.
Cooperative
Sequential
Tests of
Educational Progress
Mathematics
General Directions

This is a test of some of the understandings, skills, and abilities you have been developing ever since you first entered school. You should take the test in the same way that you would work on any new and interesting assignment. Here are a few suggestions which will help you to earn your best score:

1. Make sure you understand the test directions before you begin working. You may ask questions about any part of the directions you do not understand.

2. You will make your best score by answering every question because your score is the number of correct answers you mark. Therefore, you should work carefully but not spend too much time on any one question. If a question seems to be too difficult, make the most careful guess you can, rather than waste time puzzling over it.

3. If you finish before time is called, go back and spend more time on those questions about which you were most doubtful.
DIRECTIONS FOR PART ONE

Each of the questions or incomplete statements in this test is followed by four suggested answers. You are to decide which one of these answers you should choose.

You must mark all of your answers on the separate answer sheet you have been given; this test booklet should not be marked in any way. You must mark your answer sheet by blackening the space having the same letter as the answer you have chosen. For example:

0 Which one of the following is an animal?
   A Bed
   B Dog
   C Chair
   D Box

Since a dog is an animal, you should choose the answer lettered B. On your answer sheet, you would first find the row of spaces numbered the same as the question—in the example above, it is 0. Then you would blacken the space in this row which has the same letter as the answer you have chosen. See how the example has been marked on your answer sheet.

Make your answer marks heavy and black. Mark only one answer for each question. If you change your mind about an answer, be sure to erase the first mark completely.

Do not turn this page until you are told to do so.
PART ONE

Joe and Ted have model railroads. They spend much of their spare time working on these railroads.

1 Joe used his ruler to measure a baggage car 21 inches wide. What letter has an arrow pointing to 2 \( \frac{3}{8} \) inches on the ruler pictured below?

```
<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
```

E A
F B
G C
H D

2 Ted bought some material to make trees and bushes to put along his model railroad. He bought a sponge for 25 cents, glue for 15 cents, wire for 19 cents, and paint for 98 cents. How much did these things cost altogether?

E $1.37
F $1.45
G $1.47
H $1.57

3 Joe built a bench to hold his railroad. He cut 3 pieces of lumber, each 3 feet 4 inches long, from a piece of lumber 12 feet long. How long was the piece of lumber that was left?

A 1 foot 8 inches
B 2 feet
C 5 feet 8 inches
D 10 feet

David likes to keep a record of his weight and height. He measures his weight and height each year on his birthday.

4 David and his dog Tippy together weigh 103 pounds. David alone weighs 77 pounds. To find Tippy's weight, David should

E add 103 to 77
F subtract 103 from 77
G divide 103 by 77
H subtract 77 from 103

5 David is 42 inches tall. This is the same as

A 3 feet
B 3 feet 6 inches
C 4 feet
D 4 feet 2 inches

6 Ellen was 2' 8" tall when David was 3' 4". At that time, David was how many inches taller than Ellen?

E 4
F 6
G 8
H 16

7 David made the graph below to show how much he weighed on each birthday.

```
<table>
<thead>
<tr>
<th>Pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
</tr>
<tr>
<td>90</td>
</tr>
<tr>
<td>80</td>
</tr>
<tr>
<td>70</td>
</tr>
<tr>
<td>60</td>
</tr>
</tbody>
</table>

Age in years

7 8 9 10 11
```

He made the LEAST gain between what two birthdays?

A 7 and 8
B 8 and 9
C 9 and 10
D 10 and 11
In Tom’s school, some children ride bicycles to school, some walk to school, and some ride on the school bus.

8 Tom lives 2 1/2 miles from school so he eats lunch at school. How many miles does he travel each day going to and from school?

E 4
F 4 1/2
G 5
H 5 1/2

9 The mileage is 32.9 on the cyclometer on Bill’s bicycle.

0 3 2 9

When he rides another 1/5 of a mile, the cyclometer should read
A 32.0
B 32.8
C 33.0
D 33.9

10 The school district paid sixty thousand dollars for new buses. How would you write this amount?

E $600
F $6,000
G $60,000
H $600,000

11 Two children from each class in the school are members of the safety patrol. To find how many patrol members there are altogether, what other fact would you need to know?

A The number of children in the school
B The number of classes in the school
C The number of children in each class
D The number of street crossings

12 Mary found that in one year she rode the city bus on 98 days and paid a total of $14.70 for bus fares. How would you find how much she paid each day for her bus fare?

E Add 98 to $14.70
F Divide $14.70 by 98
G Multiply $14.70 by 98
H Divide 989 by $14.70

Most children like to play games and keep score. In some games you may win and lose points.

13 In the game of hide-and-go-seek, the one who is “it” counts by 5’s. If John is “it” and counts “5, 10, 15,” what number should he say next?

A 16
B 20
C 25
D 30

14 In ringtoss, each player gets three rings to toss. Rings on the peg win 25 points each. Rings off the peg lose 10 points each. David has two on and one off. How many points does he get?

E 5
F 15
G 35
H 40

15 Jane is playing Rook. She keeps her score on a board like this one.

<table>
<thead>
<tr>
<th>In the hole</th>
<th>Above board</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 20 15 10 5</td>
<td>0 5 10 15 20 25</td>
</tr>
</tbody>
</table>

She was 10 points “in the hole.” Then she made 25 points. What is her score now?

A 15
B 25
C 35
D You can’t tell.

16 Ellen had 20 marbles. There were 15 agate marbles and 5 clay marbles. What part of the total number of marbles were clay?

E 1/3
F 1/4
G 1/5
H 1/6
The Kents are getting things ready for Christmas.

17 The children are making Christmas ornaments. Four of the ornaments look like this:

A   B

C   D

Which ornament is a triangle?
A A  B B  C C  D D

18 John Kent wants to paste square labels on Christmas presents. Which of the following is a square?

E   F

G   H

19 The Kent living room is 10 feet 6 inches high. Mr. Kent bought a Christmas tree that is 13 feet high. At least how much should Mr. Kent cut off the tree in order to allow 6 inches between the top of the tree and the ceiling?
A 2 feet  B 2 feet 4 inches  C 2 feet 6 inches  D 3 feet

20 Mrs. Kent will roast a turkey for Christmas. She will roast the turkey 20 minutes for each pound it weighs. Which of the following statements is true?
E The lighter the turkey, the longer you roast it.
F The lighter the turkey, the less you roast it.
G The heavier the turkey, the less you roast it.
H All turkeys are roasted the same length of time.

21 Betty Kent baked a cake for Christmas dinner. Which of these statements about cutting the cake into equal pieces is true?
A The smaller each piece, the greater the number of pieces.
B The smaller each piece, the smaller the number of pieces.
C The larger each piece, the greater the number of pieces.
D The number of pieces has nothing to do with the size of each piece.
Each class in the Roseville school spends two weeks at Camp Lisk sometime during the school year.

22 Each pupil who goes to the school camp must pay $8.00 per week. Also, the round-trip bus fare is $1.50. What was the LEAST amount of money Sue needed for two weeks at camp?
   E $9.50
   F $16.00
   G $17.50
   H $19.00

23 There are 29 pupils in Sam's class. The camp has room for 152 pupils at one time. About how many classes the same size as Sam's can be at camp at the same time?
   A 5
   B 6
   C 7
   D 123

24 The boys in Cabin 5 want to measure the length of some fallen trees. Which of the following should the boys use if they want to measure each tree in the FEWEST number of measures?
   E Yardstick
   F 6-inch ruler
   G 12-inch ruler
   H 18-inch ruler

25 One evening Mary called her mother from a pay telephone in the camp office. The telephone has slots for quarters, dimes, and nickels. The operator said, “Sixty-five cents, please.” Which set of coins should Mary put in the slots?
   A 4 dimes and 6 nickels
   B 5 dimes and 4 nickels
   C 1 quarter, 3 dimes, and 1 nickel
   D 2 quarters, 1 dime, and 1 nickel

Stop. If you finish before time is called, check your work on this part. Do not go on to Part Two until you are told to do so.

DIRECTIONS FOR PART TWO

Part Two contains the same kind of material as Part One. Mark your answers in the same way.
PART TWO

Janet has been a Brownie since she was seven years old, and she will soon be a Girl Scout. A Brownie learns to do many useful things.

1 For one of her Brownie projects, Janet made a square potholder with each side 10 inches long. About how many inches of tape would she need to go around the edges?
   A 10     B 20     C 40     D 100

2 Janet made a pan of fudge for a Brownie sale. She cut the candy into thirds and then cut one of the thirds into halves. Which diagram shows what she did?
   E
   G
   F
   H

3 When Janet's Brownie group formed 5 committees of 3 girls each in order to sell boxes of cookies, each girl sold 6 boxes. Janet said, "To find the total number of boxes sold, multiply 5 by 3 by 6." Mary said, "Multiply 6 by 5 by 3." Nancy said, "Multiply 3 by 6 by 5." Who was right?
   A Only Janet
   B Only Nancy
   C Only Janet and Nancy
   D Janet, Mary, and Nancy

4 One day the Brownies went on a picnic to a lake 3 miles away. Janet and Sue missed the bus and started walking along the road to the lake. When they had walked 1 1/4 miles, the bus returned and took them the rest of the way. How many miles did they ride on the bus?
   E 1/4
   F 1 1/4
   G 2 1/4
   H 4 1/4

5 Jim said that in 1953 the speed record for a certain airplane was 750 miles per hour. About how many hours would it take this airplane to go the 2250 miles from Pittsburgh to Los Angeles at this speed?
   A 1/3
   B 3
   C 30
   D 3,000

6 Sarah said that sound travels about 5 times as fast in water as in air. If you knew the speed of sound in water, how would you find the speed of sound in air?
   E Divide by 5.
   F Multiply by 5.
   G Add 5.
   H Subtract 5.

7 Joe found out that fast ships can go about 35 sea miles per hour. A sea mile is about 6080 feet. A land mile is 5280 feet. When Joe changed the 35 sea miles per hour to land miles per hour, his answer should have been
   A less than 35
   B 35
   C more than 35 but less than 350
   D 350

Go on to the next page.
Mr. Allen's geography class was talking about the use of arithmetic in population problems.

8 Martha said she could find the number of children in the school from a chart in the school office. Each star on the chart stood for 25 pupils. To find the total number of pupils, Martha should count the number of stars and

E subtract 25
F add 25
G divide by 25
H multiply by 25

9 Jim said a New York newspaper article gave the world's population as "two and a half billion." Written in numbers, this is

A 2,000,000
B 2,500,000
C 2,500,000,000
D 2,500,000,000,000

10 Bill said that "population per square mile" is often used to compare populations of different states. It is found by dividing the number of people in a state by the number of square miles in the state. Montana's population per square mile was once 4. Which statement is true?

E There were 4 people living in every square mile of Montana.
F There was no square mile in Montana in which more than 4 people lived.
G There was no square mile in Montana in which less than 4 people lived.
H There was an average of 4 people per square mile in Montana.

11 Susan told the class that in 1900 the population of the United States was about $\frac{1}{2}$ as much as in 1950. She said that the area of the United States did not change. The class can say that the number of people per square mile in 1950 was about

A $\frac{1}{2}$ as large as in 1900
B the same as in 1900
C 2 times as large as in 1900
D 25 times as large as in 1900

A Girl Scout troop decided to study about the sun, moon, stars, and planets.

12 Sue reported to her scout troop one night that there are four planets larger than the earth and four smaller. If the earth has a diameter of 7900 miles, which one of the following planets is smaller than the earth? (Their diameters are given in miles.)

E Venus — 7600
F Uranus — 30,800
G Saturn — 72,400
H Jupiter — 86,700

13 Jane told the troop that the closest the earth came to the sun was 91,000,000 miles. How should she say this number?

A ninety-one thousand
B nine million one hundred thousand
C ninety-one million
D ninety-one billion

14 The Girl Scouts shivered when they learned that the temperature on the moon at night was 200 degrees below zero. Most people keep their houses about 70 degrees above zero. How many degrees difference is there between these two temperatures?

E 70°
F 130°
G 200°
H 270°

15 Alice made this chart for the scouts in order to show distances of some other planets from the earth.

<table>
<thead>
<tr>
<th>Millions of Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earth</td>
</tr>
<tr>
<td>200</td>
</tr>
<tr>
<td>400</td>
</tr>
<tr>
<td>600</td>
</tr>
<tr>
<td>800</td>
</tr>
</tbody>
</table>

Which of the following is NOT true?

A Saturn is more than 700 million miles from Earth.
B All of these planets are millions of miles from Earth.
C Mercury is more than 100 million miles from Earth.
D Mars is closer to Earth than Jupiter.
A class noticed the Roman numerals MDCCCLXXVIII on the school cornerstone. After learning that this number stands for 1878, the class was interested in different ways of writing numbers and in different money systems.

16 In the Cathedral Latin School, one of the rooms is numbered XVI. What does XVI mean?
   E 10 hundreds + 5 tens + 1
   F 10 + 5 + 1
   G 10 + 4
   H 151

17 On the blackboard one morning Joe read the warning: A MISPLACED DECI-MAL POINT MEANS A LARGE MIS-TAKE! How does a misplaced decimal point change a number?
   A One place too far to the left subtracts 1 from the number.
   B One place too far to the right subtracts 1 from the number.
   C One place too far to the right makes the number 10 times too large.
   D One place too far to the left makes the number one-half as large.

18 In Sweden, kronor are used instead of pennies. If 1 krona is worth 19.37 cents in the United States, what would 1000 kronor be worth?
   E 1,937 cents
   F $1.94
   G $19.37
   H $193.70

Jane wanted to fix up her room. She planned to make curtains, paint her room, make pillow covers, and buy a new rug.

19 Jane’s bedroom is 12 feet long and 10 feet wide. Which of the following rug sizes could be used in her room?
   A 8 feet by 15 feet
   B 9 feet by 12 feet
   C 11 feet by 11 feet
   D 12 feet by 12 feet

20 Jane can spend up to $20.00 for curtains. If she spent $1.95 per yard, about how many yards of curtain material could she buy?
   E 1
   F 10
   G 20
   H 40

21 Jane wanted to have curtains 47 inches in length when finished. If 4 extra inches of cloth were used for a hem at the bottom and 3 extra inches for a hem at the top, how many inches of material were needed for each curtain?
   A 35
   B 40
   C 54
   D 66

Go on to the next page.
The Lane family drove from their home in Waterloo, Iowa, to visit the Black Hills in South Dakota.

22 The Lanes drove on Route 218 for 104 miles and then took Route 16 the rest of the way. They drove 663 miles in all. How many miles did they drive on Route 16?
   E 325
   F 559
   G 767
   H 1001

23 The mileage reading was 8735.2 at the start of the trip. Mr. Lane said they would cross the state line in about 90 miles. What should the reading be then?
   A 8645.2
   B 8736.1
   C 8744.2
   D 8825.2

24 When the Lanes stopped to buy gasoline, the price listed was 28 $\frac{8}{10}$ cents. This included a federal tax of 1 $\frac{1}{2}$ cents and a state tax of 5 cents. What would gasoline have cost without these taxes?
   E 22 $\frac{9}{10}$
   F 23 $\frac{3}{10}$
   G 27 $\frac{3}{10}$
   H 35 $\frac{1}{10}$

25 The Lanes saw Harney Peak, 7242 feet high. About how high is it in miles? (1 mile = 5280 feet.)
   A 1
   B 1 $\frac{1}{3}$
   C 1 $\frac{2}{3}$
   D 2

If you finish before time is called, you may check your work on either Part One or Part Two.
Sequential Tests of Educational Progress

Social Studies
General Directions

This is a test of some of the understandings, skills, and abilities you have been developing ever since you first entered school. You should take the test in the same way that you would work on any new and interesting assignment. Here are a few suggestions which will help you to earn your best score:

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\[ \text{0. Which one of the following is an animal?} \]

\[ \begin{array}{l}
\text{A} \quad \text{Bed} \\
\text{B} \quad \text{Dog} \\
\text{C} \quad \text{Chair} \\
\text{D} \quad \text{Box} \\
\end{array} \]

Since a dog is an animal, you should choose the answer lettered B. On your answer sheet, you would first find the row of spaces numbered the same as the question—in the example above, it is 0. Then you would blacken the space in this row which has the same letter as the answer you have chosen. See how the example has been marked on your answer sheet.

Make your answer marks heavy and black. Mark only one answer for each question. If you change your mind about an answer, be sure to erase the first mark completely.

Do not turn this page until you are told to do so.
1 Which food was raised on a farm somewhere in our country?
   A Tea      B Apples
   C Cocoa    D Coffee

2 What food probably came from a farm nearest the store?
   E Eggs    F Pineapples
   G Olives  H Lemons

3 Which of these was most likely used in bringing milk to the store?
   A Truck   B Train
   C Airplane D Boat

4 What food most likely traveled part of the way to the store by boat?
   E Oranges F Peas
   G Bananas H Celery

5 Which food most likely traveled farthest to reach the store?
   A Pineapples B Lettuce
   C Eggs      D Peaches
Here are descriptions of the way four boys live.

EDWARD traveled west with his mother and father in a covered wagon. His father has a blacksmith shop near a mining camp.

JIM lives on a modern farm where his father raises wheat and keeps a few cows and chickens. He also has a small vegetable garden.

LARRY lives in an apartment house in a large city where his father is a bus driver. His mother shops in a nearby market and business section.

OT lives in a cave. Men have not yet learned to plant and harvest crops. His father fishes and hunts.

Below are some questions about these boys and their parents. For each question pick the answer which is most likely to be correct.

6 Which boy’s mother can buy fresh bread each day in a nearby store?
A Edward’s
B Jim’s
C Larry’s
D Ot’s

7 Which boy’s mother might ask him to clean the cream separator?
A Edward’s
B Jim’s
C Larry’s
D Ot’s

8 Which boy’s father spends all of his daylight hours getting food for his family?
A Edward’s
B Jim’s
C Larry’s
D Ot’s

9 Which boy’s father might ask him to help take the yoke off the oxen?
A Edward’s
B Jim’s
C Larry’s
D Ot’s

10 Which boys have no telephone?
E Edward and Jim
F Edward and Ot
G Jim and Ot
H Jim and Larry
Questions 11–15 are based on these pictures.

Picture 1

Picture 2

Picture 3

Picture 4

Go on to the next page.
11 Why is the kind of work you see in the pictures important?
A Every town has to have good homes.
B Building homes gives work to many people.
C Almost all people need shelter from the weather.
D Most people like to do some kind of work.

12 In which picture are the builders using material which becomes hard when baked in the sun?
E 1  F 2  G 3  H 4

13 Which of the pictures shows a kind of house you would probably NOT see in our country today?
A 1  B 2  C 3  D 4

14 Which of the pictures shows building materials that may have come from a place far away from the building?
E 1 only
F 2 and 3
G 3 and 4
H 4 only

15 What is the most important idea which these pictures tell us?
A People everywhere need some kind of shelter.
B There are four different kinds of homes.
C Everyone should build homes like those in our country.
D Some kinds of homes are better than others.

On a trip last fall, John’s family stopped at the edge of a forest to cook their breakfast. They cleared a spot on the ground and started a fire. A forest ranger stopped to tell them that fires were not permitted in that part of the woods. Everyone was disappointed. John said, “Aw, gee, Dad, we haven’t even had breakfast yet. It’ll take hours to find a place to eat.”

“Never mind, son,” said his father. “We’ll make the coffee and fry the eggs before we put out the fire. I doubt if the ranger will come back this way.”

16 Which is the best reason why John’s family should observe fire laws in forests?
E Those who disobey are punished.
F Animals are frightened by campfires.
G Fires can cause great damage in forests.
H Few people know how to build a safe fire.

17 Who makes the laws about fires in forests?
A The forest rangers
B The government
C The people who sell the timber
D The men who cut the timber

18 What should John’s family have done when the ranger told them to put out their campfire?
E Put out the fire immediately.
F Finished their cooking as quickly as they could.
G Moved their campfire to a different place in the woods.
H Pretended that no one saw their fire and finished their cooking.

19 Which is the most important idea for John’s father to learn?
A Campfires must never be built in the woods.
B Rangers should watch what people do very carefully.
C Laws made for the protection of everyone should be followed.
D Forest fires may kill many of the animals of the woods.
These pictures tell the story of bread. They are not in the right order.

Bread on a store shelf

Grain elevator

Flour mill

Bakery

Slice of bread being buttered

Shocks of wheat

Go on to the next page.
20 Which picture should come first?
E The grain elevator  
F The flour mill  
G The bakery  
H The shocks of wheat

21 Which picture should come next after the grain elevator?
A The bread on a store shelf  
B The flour mill  
C The bakery  
D The slice of bread being buttered

22 Which picture does NOT show a step in the making of bread?
E The bakery  
F The flour mill  
G The grain elevator  
H The bread on a store shelf

23 In which of the following states would you be most likely to see wheat growing?
A Vermont  
B Florida  
C Kansas  
D Utah

24 Which picture shows something which would have looked most nearly the same in George Washington's time as it does today?
E The bakery  
F The flour mill  
G The shocks of wheat  
H The grain elevator

In the autumn of 1620 the Mayflower sailed from Plymouth, England. The Pilgrims were going to America to find a new home. There they would be able to worship as they pleased. These early settlers had a long and hard voyage. They suffered great hardships during their first winter in America.

In the summer of 1955 thousands of Americans visited Europe. They traveled by boat and by airplane. Some went by plane from New York to London in less than a day. Others went by boat to Southampton, England, in less than a week. In 1955 passengers crossing the Atlantic had a comfortable journey. They also lived in comfort after landing in Europe.

25 Which is the best reason why the 1955 travelers were more comfortable than the Pilgrims?
A The Pilgrims were poor.  
B The 1955 travelers were more intelligent.  
C The ocean was less stormy.  
D Between 1620 and 1955 many inventions had been made.

26 What kind of power was used to move the Mayflower?
E Wind blowing on sails  
F Many oars pulled by slaves  
G Steam engines using coal  
H Gasoline engines

27 When the Pilgrims landed in America they found Indians living there. How much did the Pilgrims learn from the Indians about how to live in America?
A The Pilgrims continued to eat their usual food but learned to build houses like those of the Indians.  
B The Pilgrims kept many of their old ways and learned some new ways from the Indians.  
C The Pilgrims brought their ways of living from England and didn't learn any new ways from the Indians.  
D The Pilgrims lived in the ways the Indians lived.

28 Which of these statements about travel between Europe and America is NOT true?
E Europeans went to America in 1620.  
F Thousands of Americans went to Europe in 1620.  
G Many Europeans visited America in 1955.  
H Many Americans visited Europe in 1955.
Here is a map of a make-believe land called NEWLAND. It does not look much like any of the lands you may have studied about in school, but you will see some of the same things you have seen on other maps. If you know what these things mean on other maps, you will be able to answer the questions about NEWLAND.

**NEWLAND**

**29** About how far is it across Newland from east to west?
- A 700 miles
- B 1000 miles
- C 1600 miles
- D 3000 miles

**30** If you traveled by airplane from place 4 to place 5, in which direction would you go?
- E North to south
- F South to north
- G East to west
- H West to east

**31** In which place in Newland would you find the LEAST rainfall?
- A 1
- B 2
- C 3
- D 5

Go on to the next page.
The BULOS worshipped Soro, the god of rain. When Soro was unhappy no rain fell and the crops died. To make the rain god happy again the Bulos would kill one of their finest animals.

The CAMAS raised cattle on plains where rainfall was light. When no rain fell the hot sun burned the grass. Then the medicine man would dance and sprinkle water on the brown grass. He hoped to drive back into the earth the demon who caused the dryness.

The DINGAS, to get a sure supply of water, dug a tunnel through a nearby mountain range. They put a dam across the river so that the water would flow through the tunnel. The Dingas believed in one god. They thanked him for rich crops from the land which they had watered.

The FOX people lived 300 miles from the ocean on the far side of a high range of mountains where there was too little rain for good crops. On the seaward slope of the mountains the winds blowing over the ocean caused heavy rains to fall. When the Fox people learned this, they crossed the mountains and settled where the rainfall was plentiful.

32 Which people made sacrifices in order to please their god?
E Bulos F Camas
G Dingas H Fox

33 Which people irrigated their land?
A Bulos B Camas
C Dingas D Fox

34 Which people probably believed that when the gods were unhappy they made people suffer?
E Bulos and Camas
F Camas and Dingas
G Dingas and Fox
H Fox and Bulos

35 Which people were most successful in getting more water?
A Bulos and Dingas
B Camas and Dingas
C Camas and Fox
D Dingas and Fox

STOP
Stop. If you finish before time is called, check your work on this part. Do not go on to Part Two until you are told to do so.

DIRECTIONS FOR PART TWO
Part Two contains the same kind of material as Part One. Mark your answers in the same way.
PART TWO

Questions 1–4 are based on these pictures.

Picture 1

Picture 2

Picture 3

Picture 4

Go on to the next page.
1 Which of the following best explains why the work shown in the pictures is important?
   A It makes money for workers.
   B It provides food for people.
   C It is healthful work.
   D It makes work for many people.

2 The man in which picture uses the fewest tools and machines in his work?
   E 1
   F 2
   G 3
   H 4

3 In what order would you put the pictures to show that man has learned better and better ways of raising crops?
   A 1, 3, 4, 2
   B 1, 4, 2, 3
   C 4, 1, 2, 3
   D 4, 1, 3, 2

4 What is the most important thing the pictures tell us?
   E Many people know how to farm.
   F Not all people grow the same things on their farms.
   G Ways of farming have changed since early times.
   H Raising food on a farm is an interesting job.

5 Which of these statements about the new boy should the children accept as true?
   A He is a stranger in the school.
   B He cannot play ball well.
   C He does not belong in the school.
   D He is always late to school.

6 Which two children disagreed most in their feeling about the new boy?
   E Mary and Don
   F Harry and Sue
   G Sue and Don
   H Mary and Harry

7 Which is the fairest way to make up your mind about a person you do not know?
   A Decide about him when you know him well.
   B Believe all you have heard about him and about people like him.
   C Think well of him only if friends of yours know him and like him.
   D Make up your mind the first time you see him.

8 In what way could the new boy best help the other children in his class?
   E He could leave them alone when they are playing.
   F He could help them learn interesting things about his country.
   G He could study very hard to show them how much he knows.
   H He could let them use all his school supplies.
Questions 9-12 are based on these maps.
9 On Map Y, the Atlantic Ocean is numbered 8. How is the Atlantic Ocean numbered on Map X?
A 1
B 2
C 5
D The Atlantic Ocean is not numbered on Map X.

10 Part of which of these continents is shown both on Map X and Map Y?
E North America
F Australia
G Europe
H Africa

11 If you traveled from 3 on Map X to visit friends at 7 on Map Y, you would be traveling
A from one country to another country
B from one state to another state
C within the same state
D from one continent to another continent

12 If you wanted to go from 4 to 6 on Map X, you could travel a route used by
E cattle on their way to the stockyards
F oranges on their way to city markets
G sugar cane on its way to the refineries
H iron ore on its way to the steel mills

13 Whose sentence best explains why little steel is manufactured in Switzerland?
A Mary’s
B Connie’s
C Tom’s
D Harry’s

14 Diane’s sentence means that Switzerland’s government
E is a copy of that of the United States
F may be entirely different from that of the United States
G is like the government of the United States in some ways
H lets people do as they please

15 Whose sentence shows that Switzerland probably has a good supply of electricity?
A Mary’s
B John’s
C Connie’s
D Diane’s

16 Whose sentence would be hardest to prove right or wrong?
E Mary’s
F John’s
G Connie’s
H Tom’s

17 The farms in Switzerland are most like the farms in which state in our country?
A Vermont
B Florida
C Ohio
D Oklahoma

18 Many people from other countries visit Switzerland each year. The reason most of these visitors come is to
E buy watches
F enjoy life in the mountains
G escape undemocratic governments
H sell iron and coal

Here are sentences which some children wrote about Switzerland.

Mary: Switzerland has many snow-covered mountains, steep slopes, and streams.
John: The farms in Switzerland are small and rocky.
Connie: Very little coal and iron are produced in Switzerland.
Tom: Switzerland makes better watches than any other country.
Harry: Switzerland has no seacoast.
Diane: Switzerland has a democratic form of government.

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Go on to the next page.
Many people have done much for our country during the 300 years since the first colonists made permanent settlements on the eastern shore of North America. Here are four ways in which people have helped our country.

1. Some have helped to open up new regions.
2. Some have worked to set up and improve our government.
3. Some have given us better ways of living through their work in science and invention.
4. Some have added to our enjoyment of living through their writings, or their music, or through their efforts to help people.

19 In which of the four ways did Thomas Jefferson and Andrew Jackson help our country?
   A 1   B 2   C 3   D 4

20 In which of the four ways did Robert Fulton and Eli Whitney help our country?
   E 1   F 2   G 3   H 4

21 In which of the four ways did Walt Whitman and Stephen Foster help our country?
   A 1   B 2   C 3   D 4

22 In which of the four ways did Daniel Boone and Meriwether Lewis help our country?
   E 1   F 2   G 3   H 4

23 In which of the four ways did Mark Twain and Henry W. Longfellow help our country?
   A 1   B 2   C 3   D 4
The chart below shows changes in the use of land in the United States since 1700.

Each symbol represents 200 million acres

24 Why is this symbol a good symbol to show pasture lands on the chart?
E There are many trees on pasture lands.
F It looks like the grass on pasture lands.
G Pasture lands are used for growing grain.
H It is smaller than the trees.

25 How many acres of crop land were there in 1940?
A 100 million acres
B 200 million acres
C 400 million acres
D The chart does not tell.

26 In which of these years did the United States have the most acres of trees?
E 1700
F 1879
G 1940
H The chart does not tell.

27 Which of these is the most important reason why we still have many acres of waste land in this country?
A Too many Indians live on these lands.
B These lands are far away from where people live.
C Men do not have the right kind of machines for these lands.
D Men have not yet found a way to make these lands valuable.

28 The chart shows a change in acres of forest land between 1700 and 1940. Which of these is an important reason for this change?
E We use wood for many things.
F Forest lands were cleared to make room for farms.
G Some forests have been destroyed by fire.
H All of these reasons are important.
In each of the following questions there are four sentences. ONE sentence does not belong with the others. Find the sentence that should come out because it does not belong with the other three.

**29** Grandfather is reading in his newspaper about the first airplane flight and says:
- A “Well, well, I see where those Wright boys got that contraption of theirs off the ground.”
- B “The beach at Kitty Hawk was a pretty good place to try it out.”
- C “Turn to channel two, Bob. Let’s see if there’s anything in the news report about it.”
- D “Hope the thing runs better than some of our automobiles.”

**30** John and Susan are telling about their summer trip.
- E “We visited eight countries in Europe.”
- F “We saw them change the guard at Buckingham Palace.”
- G “Hawaii was our favorite.”
- H “We visited the tulip gardens in Holland.”

**31** Priscilla lived in colonial Virginia. One day while talking to her father she said:
- A “Did you see the Governor ride past in his coach today?”
- B “I missed you while you were in Philadelphia meeting with the Continental Congress.”
- C “England makes us pay too many taxes.”
- D “We shouldn’t be taxed when we go to the movies.”

**32** John is telling about his first trip to New England.
- E “We saw where the Pilgrims landed at Plymouth Rock.”
- F “Then we drove through the countryside where Paul Revere made his ride.”
- G “One afternoon we drove out to see the settlement at Jamestown.”
- H “Our last trip was to Bunker Hill, scene of an early Revolutionary War battle.”

The following listing is found in the index of a social studies book:

Gold: in Mexico, 47–48, 51; in Peru, 52–53; seven cities of, 54–55; in California, 276–278; in Nevada and Colorado, 349. See also Cortes, Pike, Pizarro, Sutter

**33** If you were interested in the Gold Rush of 1849, to which of these pages would you turn?
- A 47–48
- B 52–53
- C 54–55
- D 276–278

**34** For further information about the search for gold in Mexico, under which of these names would you look?
- E Pike
- F Pizarro
- G Cortes
- H Sutter

**35** On which pages would you look for information about the search for gold on a continent other than North America?
- A 47–48
- B 52–53
- C 54–55
- D 349

If you finish before time is called, you may check your work on either Part One or Part Two.
Smith, Mary Ruth

Education: B. S., Clark College, (Home Economics), 1954; Certified Teacher of Student Teachers, Atlanta University, 1958.

Experience: Sixth grade elementary school teacher, Thomas Hayne Slater School, 1954 - 60.

Fields of Concentration: Home Economics, with major interest in clothing. Education, with major interest in elementary education.

Personal Information: Single. Member, Georgia Teachers and Education Association, Georgia Education Association, American Teachers Association, National Education Association and Classroom Teachers Association.
# Pupil Adjustment Inventory

**SHORT FORM**

Developed by Group 8 of the Philadelphia Suburban School Study Council

**SCHOOL:__**  **GRADE:__**  **RATED BY:__**

**DATE RATED: [year] [month] [day]**  **DATE OF BIRTH: [year] [month] [day]**

**AGE WHEN RATED: [year] [month]**

## Characteristics

<table>
<thead>
<tr>
<th>A. ACADEMIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Chronological age at grade</td>
</tr>
<tr>
<td>Two or more years over age for grade</td>
</tr>
</tbody>
</table>

| 2. Achievement in relation to estimated ability |
| For below estimated ability | Below estimated ability | Equal to estimated ability | Above estimated ability | For above estimated ability |

| 3. Attitude toward schoolwork |
| Almost never attempts any schoolwork | Occasionally complains required work | Must be prodded to do what he does | Generally does more schoolwork than is required | Is actively creative in schoolwork |

| B. SOCIAL |
| 1. Sociability |
| Cold | Rude |
| (b) Does not like others |
| (c) Rude towards others |

| 2. Social acceptance |
| Likes acceptance from only a few individuals outside his peer group |
| Indifferent to being friendly with others |

| 3. Types of associates |
| Associates with those who are socially acceptable |
| Associates with those who are socially irresponsible |

| C. EMOTIONAL |
| 1. Temperament |
| Unstable at the time |

| 2. Personal traits |
| Seems to despise himself |

| D. PHYSICAL |
| 1. State of health |
| Very poor health |

| E. ACTIVITIES AND INTERESTS |
STUDY OF VALUES
REVISED EDITION

Gordon W. Allport  ·  Philip E. Vernon  ·  Gardner Lindzey

Part I

NAME

DIRECTIONS: A number of controversial statements or questions with two
alternative answers are given below. Indicate your personal preferences
by writing appropriate figures in the boxes to the right of each question.
Some of the alternatives may appear equally attractive or unattractive
to you. Nevertheless, please attempt to choose the alternative that is
relatively more acceptable to you. For each question you have three
points that you may distribute in any of the following combinations.

If you agree with alternative (a) and disagree with
(b), write 3 in the first box and 0 in the second
box, thus

If you agree with (b); disagree with (a), write
If you have a slight preference for (a) over (b),
write
If you have a slight preference for (b) over (a),
write

Do not write any combination of numbers except one of these four. There
is no time limit, but do not linger over any one question or statement,
and do not leave out any of the questions unless you find it really im-
possible to make a decision.

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