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A longitudinal study of the relations between sex, intelligence, reading grade achievement, and rate of reading growth from grades four through eight

Janice M. Ebert
University of Nebraska at Omaha

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A LONGITUDINAL STUDY OF THE RELATIONS BETWEEN SEX, INTELLIGENCE, READING GRADE ACHIEVEMENT, AND RATE OF READING GROWTH FROM GRADES FOUR THROUGH EIGHT

A Thesis
Presented to
the Faculty of the Department of Psychology
University of Omaha

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts

by
Janice M. Ebert
November 1959
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Miss Frances M. Edwards, Assistant Director, Child Study Service, University of Omaha.

J. M. E.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. THE PROBLEM AND DEFINITIONS OF TERMS</td>
<td>1</td>
</tr>
<tr>
<td>The problem</td>
<td>2</td>
</tr>
<tr>
<td>Statement of the problem</td>
<td>2</td>
</tr>
<tr>
<td>Definitions of terms</td>
<td>2</td>
</tr>
<tr>
<td>Intelligence or IQ</td>
<td>2</td>
</tr>
<tr>
<td>Grade placement</td>
<td>2</td>
</tr>
<tr>
<td>Rate of reading growth</td>
<td>3</td>
</tr>
<tr>
<td>Sex</td>
<td>3</td>
</tr>
<tr>
<td>Longitudinal approach</td>
<td>3</td>
</tr>
<tr>
<td>II. REVIEW OF THE LITERATURE</td>
<td>4</td>
</tr>
<tr>
<td>History on the scientific studies of reading</td>
<td>4</td>
</tr>
<tr>
<td>Related research pertaining to intelligence, sex, and reading achievement</td>
<td>6</td>
</tr>
<tr>
<td>Reading in relation to total growth</td>
<td>12</td>
</tr>
<tr>
<td>Summary</td>
<td>13</td>
</tr>
<tr>
<td>III. METHODS OF PROCEDURE</td>
<td>15</td>
</tr>
<tr>
<td>The group studied</td>
<td>15</td>
</tr>
<tr>
<td>Description of tests</td>
<td>18</td>
</tr>
<tr>
<td>Administration and scoring of tests</td>
<td>21</td>
</tr>
<tr>
<td>Statistical procedure</td>
<td>23</td>
</tr>
<tr>
<td>CHAPTER</td>
<td>PAGE</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>IV. RESULTS</td>
<td>25</td>
</tr>
<tr>
<td>Means and standard deviations</td>
<td>25</td>
</tr>
<tr>
<td>Correlation findings</td>
<td>28</td>
</tr>
<tr>
<td>Graphic representation of data</td>
<td>32</td>
</tr>
<tr>
<td>V. SUMMARY AND CONCLUSIONS</td>
<td>37</td>
</tr>
<tr>
<td>Summary</td>
<td>37</td>
</tr>
<tr>
<td>Conclusions</td>
<td>39</td>
</tr>
<tr>
<td>Recommendations for further research</td>
<td>40</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>41</td>
</tr>
<tr>
<td>APPENDIX</td>
<td>44</td>
</tr>
</tbody>
</table>
LIST OF TABLES

<table>
<thead>
<tr>
<th>TABLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Schools Included for the Study</td>
<td>16</td>
</tr>
<tr>
<td>II. Intelligence of Subjects</td>
<td>17</td>
</tr>
<tr>
<td>III. Grade and Year in School, Form and Level of the California Reading Tests</td>
<td>22</td>
</tr>
<tr>
<td>IV. Ranges, Means, and Standard Deviations on IQ's</td>
<td>25</td>
</tr>
<tr>
<td>V. Ranges, Means, and Standard Deviations on Reading Grade Placement Scores</td>
<td>26</td>
</tr>
<tr>
<td>VI. Ranges, Means, and Standard Deviations on Rate of Reading Growth Scores</td>
<td>27</td>
</tr>
<tr>
<td>VII. Product Moment Correlations for IQ with Reading Grade Placement</td>
<td>28</td>
</tr>
<tr>
<td>VIII. Product Moment Correlations for IQ with Rate of Reading Growth</td>
<td>29</td>
</tr>
<tr>
<td>IX. Point Biserial Correlations on Sex and Reading Grade Placement</td>
<td>30</td>
</tr>
<tr>
<td>X. Point Biserial Correlations on Sex and Rate of Reading Growth</td>
<td>31</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>FIGURE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Boys' Mean Reading Grade Placement in Terms of Quartile IQ Groups</td>
<td>33</td>
</tr>
<tr>
<td>2. Girls' Mean Reading Grade Placement in Terms of Quartile IQ Groups</td>
<td>34</td>
</tr>
<tr>
<td>3. Boys' Mean Rate of Reading Growth in Terms of Quartile IQ Groups</td>
<td>35</td>
</tr>
<tr>
<td>4. Girls' Mean Rate of Reading Growth in Terms of Quartile IQ Groups</td>
<td>36</td>
</tr>
</tbody>
</table>
CHAPTER I

THE PROBLEM AND DEFINITIONS OF TERMS

Reading has been acknowledged as one of the basic subjects in formal education experience. School administrators, teachers, psychologists, parents, and other interested persons have stressed the urgent demand for such a skill for solving problems, reasoning, and learning. A considerable amount of time, effort, and attention has been devoted to reading in the elementary school. It has a vital place in nearly every aspect of academic endeavor. Unless a child attains a certain facility in reading, his educational progress is hindered. Snedaker and Horn indicated concern when they stated that pupils must obtain from books a vast part of their knowledge and much stimulation for thinking. Reading has been considered essential not only to study most areas of the curriculum but also to motivate and enrich thought.¹

I. THE PROBLEM

Statement of the problem. It was the purpose of this study to investigate the relation between (1) intelligence and sex, (2) intelligence and reading grade placement, (3) intelligence and rate of reading growth, (4) sex and reading grade placement, and (5) sex and rate of reading growth.

II. DEFINITIONS OF TERMS

For this study, intelligence or IQ was determined by the score on the Terman-McNemar Test of Mental Ability. Freeman stated:

The scale is thus consistent with Terman's definition of intelligence; that is, the ability to deal with symbols and abstractions. The authors subscribe to the general factor (g) theory of intelligence. They hold that the general factor is best tested by means of materials using symbols and abstractions.\(^2\)

In this thesis the grade placement was derived from the California Reading Tests. The grade norms permitted comparisons of pupils' scores with the median scores made by pupils in the typical school population.\(^3\)


Rate of reading growth was determined by computing the yearly progressions or regressions from the grade placement scores of the California Reading Tests.

The term sex referred to the 502 boys and 502 girls in grades four through eight of the Omaha Public Schools.

The longitudinal approach involved following the same cases for five consecutive grades from 1953 to 1957.
CHAPTER IX

REVIEW OF THE LITERATURE

History on the Scientific Studies of Reading

As early as 1844 Valentius studied the nature of the perceptual process in reading in the laboratories of Europe. Javal found that eye movements in reading were not continuous but consisted of alternate movements and pauses.¹ For a period of thirty years beginning in 1850 the people of Germany and France examined problems related primarily to perception and eye movement in reading.²

Before 1896 only four scientific studies in reading were published in England and the United States. During the period from 1896 to 1910 a noticeable interest developed in reading problems. The years between 1911 and 1915 brought a considerable increase in the quantity of studies reported. Since 1916 this country has manifested an unsurpassed concern in the scientific study of reading problems.³


³Ibid., p. 4.
From 1884 to 1910 more than half of the studies published pertained to the psychology and physiology of reading. Also considered prior to 1911 were vocabulary tests, rhythm in oral reading, historical development in school readers, and rate of adult reading. Two important results of studies made during this period brought out the clear-cut distinctions between oral and silent reading and the recognition of individual differences in reading habits and interests.\(^4\)

An examination of studies made between 1911 and 1913 revealed that they dealt with methods of learning to read, relative value of different techniques of beginning reading, need of phonetics, the content courses of study in reading, and the degree and quality of reading material in various schools and grades.\(^5\)

Between 1914 and 1915 two-thirds of the studies related to the organization, standardization, and application of reading tests. Through their use it was possible to study, by way of classroom conditions, the reading habits, accomplishments, and difficulties of large groups of children. By the close of 1915 administrators, teachers, and

\(^4\)Ibid., p. 5.
\(^5\)Ibid., p. 6.
scientists were actively engaged in measuring the reading instruction results, comparing achievement in oral and silent reading, measuring the results of pupils taught by various methods, and determining the factors which made fast progress.  

The last three decades produced a great increase in the number of studies reported and a rapid increment in the range of problems analyzed. Although limitations were noted in scientific work relating to reading, much evidence available served as a guide in reorganizing and improving reading instruction and in re-evaluating importance of reading in this era.  

Related Research Pertaining to Intelligence, Sex, and Reading Achievement  

The longitudinal technique, in recent years, has served as a meaningful approach in the investigation of various factors in reading. The studies that seemed pertinent for discussion were published by Millard, Anderson, Hughes, and Dixon.  

Millard, in 1940, reported that successive measures enabled the investigator to trace the child through stages

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6Ibid.  

of growth. The children studied attended the Henry Ford School, Dearborn, Michigan. They were of a high social status in an industrial community. More than one hundred pupils were examined. Measurements extended over three consecutive years preceding adolescence. The outcome was as follows:

Intelligence was found to be a potent factor not only in determining performance at a given time, but likewise in determining the very character of learning. The bright children were found to begin achievement at an earlier age than the dull children, and consequently to mature earlier. Although intelligence seemed to have no effect upon rate of growth in reading, differences were found to exist in the maxima to be achieved.

Although there are characteristics of the reading/achievement curve which can be attributed to the effect of sex, differences in rates of growth, differences in time at which maturity is reached, and differences in maxima, there is no basic difference in achievement when all of these factors are taken into consideration.

Another study included longitudinal records on 107 boys and 102 girls from first to the sixth grades. The average IQ of the first grade group was 120 as measured by the Stanford-Binet. The standard deviation of the IQ's was

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9Ibid., p. 99.

10Ibid., p. 91.
Both boys and girls in the 130 or higher IQ group began to read early and progressed very rapidly; sex differences in age of learning to read disappeared. Children with IQ's from 100 or lower commenced late and continued, in general, slowly with high variability in rate of reading development. Boys started reading later but developed more rapidly in this group. The group that fell between IQ's of below 130 to above 100 indicated sex differences in age of learning to read but no difference in the rate of progress.\(^{11}\)

Since Tinker stated that reading was, to a pronounced degree, an intellectual process, mental development appeared to be an important determinant of reading success. Dull children had made some progress in learning to read, but this progress was slow, and the level they eventually attained was not high. Moreover, dull children did not begin reading as early as children who were intellectually more mature.\(^{12}\)


Frandsen and Higginson reported similar correlations for the IQ's of the Stanford-Binet and the Wechsler Intelligence Scale for Children with the educational age on the reading section of the Stanford Achievement Test. The results were as follows:

<table>
<thead>
<tr>
<th>Test</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stanford-Binet</td>
<td>.67</td>
</tr>
<tr>
<td>Wechsler Intelligence Scale for Children</td>
<td></td>
</tr>
<tr>
<td>Full Scale</td>
<td>.68</td>
</tr>
<tr>
<td>Verbal Scale</td>
<td>.55</td>
</tr>
<tr>
<td>Performance Scale</td>
<td>.62</td>
</tr>
</tbody>
</table>

Betts stated that the correlation between reading ability and intelligence was approximately .60. This indicated that intelligence was an important but not the sole contributing factor of success in reading.14

Stephens stated that sexes were equal on the total test scores of intelligence. Almost universally girls were higher on the language part of the test, whereas boys were higher on the arithmetic or mathematics parts.15


Fra Samuels discovered at the first grade level statistical significance in favor of the girls with intelligence quotients, drawing test scores, teachers' ratings, and scores on the Monroe Aptitude Test. The girls were also superior to the boys in measures of achievement.\textsuperscript{16}

Hughes summarized a study on sex differences from grades three through eight in reading achievement. In the third and fourth grades when boys were comparable in age and mental ability to the girls, significant differences in reading achievement appeared through these grades in favor of the girls. The difference was found greatest in third grade and somewhat less in fourth grade. Above fourth grade, differences were statistically insignificant. The real cause for sex differences in favor of the girls in the lower grades was unknown; however, theories offered to explain the differences mentioned the factors of growth, maturation, interest, and motivation.\textsuperscript{17}


\textsuperscript{17}Mildred C. Hughes, "Sex Differences in Reading Achievement in the Elementary Grades," Clinical Studies in Reading, II, edited by Helen M. Robinson, Supplementary Educational Monographs, Number 77 (Chicago: The University of Chicago Press, 1953), pp. 103-105.
Of 142 boys and 175 girls, it was noted that the age of learning to read was widely spread among both sexes, but girls tended to learn to read earlier than boys. The age of learning to read was correlated with intelligence: .57 for girls and .54 for boys. The age of learning to read was correlated with reading achievement in the sixth grade: .67 for girls and .65 for boys.18

Psychological measurement has brought to light great variations in reading abilities. Children of the same age and grade showed great differences in rate, comprehension, and vocabulary. Tinker stated that with increase in grade level one may expect a greater range of reading abilities. Beyond first grade a span of four grades could be found. By the end of third grade the spread ordinarily extended from about second to eighth grade ability, and by the sixth grade, from fourth to eleventh grade ability.19

In the study "Individual Differences and Curriculum Practice," Cook indicated that when achievement of a


19 Tinker, op. cit., p. 195.
typical sixth grade class was measured, there was a range of approximately eight years.\textsuperscript{20}

Harris reported the results of an extensive survey of 19,063 eighth grade pupils from the New York City Schools. Subjects were said to vary from below third grade to the College level in reading achievement.\textsuperscript{21}

Reading in Relation to Total Growth

Professor Willard C. Olson and his associates at the University Elementary School at the University of Michigan used the longitudinal method to study changes in height, weight, dentition, strength of grip, ossification of wrist bones, mental growth, and school achievement. The experiments led to the conclusion that reading achievement was a function of the total growth of the child. Some exceptions to this rule were confessed, but generally growth tended to proceed in a unified fashion.\textsuperscript{22} Frandsen stated the gradual


progress in language, spelling, reading, vocabulary, and arithmetic paralleled physical, motor, and intellectual development.\textsuperscript{23}

**Summary**

Research indicated that intelligence was an important determinant in reading but not the sole contributing factor. The bright children started and matured earlier than the dull. Certain evidence suggested that intelligence appeared to have no bearing upon rate of growth in reading, but differences were found in the maxima attained.

Although sexes were equal on the total intelligence test scores, girls were higher on the language section, and boys were superior on the mathematics section.

In the lower grades girls were superior to boys in reading. Specific findings revealed that boys tended to equal the girls above fourth grade.

Psychological measurement has indicated the great variations in reading abilities among children. At higher grade levels a greater range in reading skill can be expected.

Some authorities have suggested that reading and other school achievement curves are similar to physical and intellectual growth trends, indicating a unified developmental pattern.
CHAPTER III

METHODS OF PROCEDURE

The Group Studied

This study used the longitudinal technique with 502 boys and 502 girls. Originally about 2,500 cases were considered, but because of illnesses, moving, and other reasons for absences the group diminished to a total of 1,004 pupils. Selection included all those subjects who had one Terman-McNemar Test of Mental Ability score at the eighth grade level and total reading scores on the California Reading Test for five consecutive grades from four through eight.

Pupils came from almost every one of the Omaha Public Schools. There were fifty-four different schools represented. See Table I, page 16.

The chi square test was utilized to compare the frequencies obtained in the sample with those expected theoretically on the basis of the frequencies in the school populations being sampled. The probability of attaining a sample like the one at hand through random sampling from the universe described by the total frequencies was .005 (or 5 chances in 1,000). From these results one would be forced to conclude that the sampling from the schools was not random.
<table>
<thead>
<tr>
<th>Table I: Schools Included for the Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adams</td>
</tr>
<tr>
<td>Bancroft</td>
</tr>
<tr>
<td>Beals</td>
</tr>
<tr>
<td>Belle Ryan-Pickard</td>
</tr>
<tr>
<td>Belvedere</td>
</tr>
<tr>
<td>Benson West</td>
</tr>
<tr>
<td>Brown Park</td>
</tr>
<tr>
<td>Castelar</td>
</tr>
<tr>
<td>Central Grade</td>
</tr>
<tr>
<td>Central Park</td>
</tr>
<tr>
<td>Clifton Hill</td>
</tr>
<tr>
<td>Columbian</td>
</tr>
<tr>
<td>Comenius</td>
</tr>
<tr>
<td>Corrigan</td>
</tr>
<tr>
<td>Druid Hill</td>
</tr>
<tr>
<td>Dundee</td>
</tr>
<tr>
<td>Edward Rosewater</td>
</tr>
<tr>
<td>Field Club</td>
</tr>
</tbody>
</table>
The examination of intelligence test data suggested a wide range of scores that covered the various degrees of mental development, as shown in Table II.

#### TABLE II

**INTELLIGENCE OF SUBJECTS**

<table>
<thead>
<tr>
<th>Intelligence Quotient</th>
<th>Number Boys</th>
<th>Number Girls</th>
<th>Total Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>160-164</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>155-159</td>
<td>5</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>150-154</td>
<td>8</td>
<td>10</td>
<td>18</td>
</tr>
<tr>
<td>145-149</td>
<td>15</td>
<td>20</td>
<td>35</td>
</tr>
<tr>
<td>140-144</td>
<td>32</td>
<td>29</td>
<td>61</td>
</tr>
<tr>
<td>135-139</td>
<td>52</td>
<td>56</td>
<td>108</td>
</tr>
<tr>
<td>130-134</td>
<td>53</td>
<td>77</td>
<td>130</td>
</tr>
<tr>
<td>125-129</td>
<td>73</td>
<td>66</td>
<td>139</td>
</tr>
<tr>
<td>120-124</td>
<td>42</td>
<td>46</td>
<td>88</td>
</tr>
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<td>115-119</td>
<td>39</td>
<td>36</td>
<td>75</td>
</tr>
<tr>
<td>110-114</td>
<td>36</td>
<td>29</td>
<td>65</td>
</tr>
<tr>
<td>105-109</td>
<td>25</td>
<td>25</td>
<td>50</td>
</tr>
</tbody>
</table>
TABLE II (continued)

<table>
<thead>
<tr>
<th>Intelligence Quotient</th>
<th>Number Boys</th>
<th>Number Girls</th>
<th>Total Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>80-84</td>
<td>21</td>
<td>14</td>
<td>35</td>
</tr>
<tr>
<td>75-79</td>
<td>19</td>
<td>11</td>
<td>30</td>
</tr>
<tr>
<td>70-74</td>
<td>12</td>
<td>9</td>
<td>21</td>
</tr>
<tr>
<td>65-69</td>
<td>6</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>60-64</td>
<td>7</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>55-59</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>50-54</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

Description of Tests

The California Achievement Tests, devised by Ernest W. Tiegs and Willis W. Clark purported to measure the basic skills of reading, arithmetic, and language from grades one through fourteen. The four batteries (primary, elementary, intermediate, and advanced) consisted of forms AA, BB, CC, DD of the 1951 series. All included the same general tests with changing content and increasing difficulty. These

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batteries have been listed as widely used for measurement of educational achievement. Interpretation of scores may be made in terms of percentile, or with age-grade norms.

These tests were intended to analyze pupil achievement in the following ways:

1. They measured continuity of educational growth over a range of grades.

2. They indicated group or classroom differences in subject-matter and skills.

3. They showed differences in competence in a given individual.

4. They revealed those pupils who were so markedly low in any area that they might need remedial instruction or require more intensive testing.

The authors of the California Achievement Tests had intended the different levels to measure the same elements. Considerable overlapping from level to level was provided to tap the wide spread of abilities in a grade or class.

---


31957 Catalog of Standardized Tests and Related Materials, p. 19.

4Freeman, op. cit., p. 387.
Norms needed to be comparable so that pupils could be traced throughout the school period. Ease of scoring and the reporting of scores in a meaningful manner were of concern. The foregoing characteristics were all regarded in the construction and standardization as indicated in the 1957 Catalog of Standardized Tests and Related Materials. ⁵

The Terman-McNemar Test of Mental Ability, written by Lewis M. Terman and Quinn McNemar, was designed primarily for grades seven through twelve. Forms C and D consisted of 162 items and seven subtests as Information, Synonyms, Logical Selection, Classification, Analogies, Opposites, and Best Answer which were characterized as of general verbal intelligence. ⁶ The authors defined IQ as "measure of brightness." ⁷ Anastasi added:

Scores can be expressed in terms of percentiles, mental ages, and deviation IQ's with a 5D deviation of 16 points. The last type of score is, of course, the soundest of three measures and is to be preferred for most purposes. ⁸

---

⁵ 1957 Catalog of Standardized Tests and Related Materials, p. 17.


⁷ Ibid., p. 7.

According to Mursell, "For general classification and for the prediction of academic success it is a useful instrument."9

**Administration and Scoring of Tests**

The Terman-McNemar Test of Mental Ability, Form D, was given and scored by the members of the University of Omaha's Child Study Service. Every eighth grade class in the Omaha Public Schools took the test the first semester of the 1956-57 term. At the time intelligence was examined it was probably a fair indication of the relative brightness for the other grade levels involved in this study. "Many studies have shown the IQ to remain relatively constant under ordinary conditions from year to year."10 Olson reported that children who were retested a period of one, two, and three years had substantially the same intelligence quotient as previously.11

During the first part of the second semester of the five consecutive years, the California Reading Tests were

---


administered and scored as part of the regular public school testing plan. See Table III.

**TABLE III**

GRADE AND YEAR IN SCHOOL, FORM AND LEVEL OF THE CALIFORNIA READING TESTS

<table>
<thead>
<tr>
<th>Grade</th>
<th>Year</th>
<th>Form</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>1953</td>
<td>CC</td>
<td>Elementary</td>
</tr>
<tr>
<td>5</td>
<td>1954</td>
<td>BB</td>
<td>Elementary</td>
</tr>
<tr>
<td>6</td>
<td>1955</td>
<td>BB</td>
<td>Elementary</td>
</tr>
<tr>
<td>7</td>
<td>1956</td>
<td>CC</td>
<td>Intermediate</td>
</tr>
<tr>
<td>8</td>
<td>1957</td>
<td>AA BB</td>
<td>Intermediate</td>
</tr>
</tbody>
</table>

The listed information was recorded on individual cards for each case by the author in preparation for the statistical analysis:

1. Pupil's name
2. School or schools attended
3. Sex
4. Intelligence quotient or IQ as measured by the Terman-McNamar Test of Mental Ability
5. Grade equivalents were derived from the California Reading Tests
6. Rate of reading growth calculated from the year-to-year progressions or regressions in the grade equivalents of the California Reading Tests.
Statistical Procedure

The mean and standard deviation are appropriate descriptive measures for normally distributed scores. Assuming normality, the formulae for these statistics as given by Wert, Neidt, and Ahmann were utilized on boys, girls, and the combined total number of cases for IQ's, reading grade placement, and rate of reading growth.¹²

Scatter diagrams were prepared and after examination they suggested a linear relation between the variables considered. As a result the method used to assess the degree of relation was the Pearson product-moment correlation coefficient as described by Wert, Neidt, and Ahmann.¹³ IQ was correlated with (1) reading grade placement and (2) rate of reading growth for boys, girls, and the entire group. With boys' scores as 0 and girls' as 1, sex was correlated with (1) intelligence, (2) reading grade placement, and (3) rate of reading growth. The point biserial, equivalent to the product moment formula, was used to reflect the magnitude of the difference between the means of the two groups.

¹³Ibid., pp. 86-87.
Table J from Garrett was used to determine whether these coefficients were statistically significant.  

The population in this research was then divided into quartile groups in accordance with their IQ's. The mean reading grade placement and rate of reading growth on each IQ group for boys and girls individually were calculated and graphed as a visible supplement to the correlation results.

---

CHAPTER IV

RESULTS

Means and Standard Deviations

When the intelligence quotients as determined by the Terman-McNemar Test of Mental Ability were analyzed, the ranges, means, and standard deviations shown in Table IV were obtained.

<table>
<thead>
<tr>
<th>Sex</th>
<th>Limits</th>
<th>Range</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>50 to 149</td>
<td>99</td>
<td>105.47</td>
<td>17.95</td>
</tr>
<tr>
<td>Girls</td>
<td>50 to 161</td>
<td>111</td>
<td>107.80</td>
<td>16.85</td>
</tr>
<tr>
<td>Total</td>
<td>50 to 161</td>
<td>111</td>
<td>106.63</td>
<td>17.25</td>
</tr>
</tbody>
</table>

The sample included a wide range of mental ability with the mean of the girls somewhat higher than the boys. The standard deviations indicated a wider variation for the boys than the girls.

The ranges, means, and standard deviations were calculated on the grade placement norms as measured by the California Reading Tests. These are shown in Table V, page 26.
### TABLE V

**Ranges, Means, and Standard Deviations on Reading Grade Placement Scores**

<table>
<thead>
<tr>
<th>Sex</th>
<th>Grade</th>
<th>Limits</th>
<th>Range</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>4</td>
<td>2.1 to 8.8</td>
<td>6.7</td>
<td>4.86</td>
<td>1.23</td>
</tr>
<tr>
<td>Girls</td>
<td>4</td>
<td>2.0 to 9.5</td>
<td>7.5</td>
<td>5.15</td>
<td>1.14</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>2.0 to 9.5</td>
<td>7.5</td>
<td>5.00</td>
<td>1.20</td>
</tr>
<tr>
<td>Boys</td>
<td>5</td>
<td>2.1 to 10.5</td>
<td>8.4</td>
<td>5.89</td>
<td>1.53</td>
</tr>
<tr>
<td>Girls</td>
<td>5</td>
<td>2.8 to 10.5</td>
<td>7.7</td>
<td>6.23</td>
<td>1.36</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>2.1 to 10.5</td>
<td>8.4</td>
<td>6.06</td>
<td>1.46</td>
</tr>
<tr>
<td>Boys</td>
<td>6</td>
<td>1.7 to 11.0</td>
<td>9.3</td>
<td>6.60</td>
<td>1.72</td>
</tr>
<tr>
<td>Girls</td>
<td>6</td>
<td>2.5 to 11.0</td>
<td>8.5</td>
<td>6.96</td>
<td>1.63</td>
</tr>
<tr>
<td>Total</td>
<td>6</td>
<td>1.7 to 11.0</td>
<td>9.3</td>
<td>6.78</td>
<td>1.68</td>
</tr>
<tr>
<td>Boys</td>
<td>7</td>
<td>4.3 to 11.5</td>
<td>7.2</td>
<td>8.20</td>
<td>1.62</td>
</tr>
<tr>
<td>Girls</td>
<td>7</td>
<td>4.1 to 11.5</td>
<td>7.4</td>
<td>8.49</td>
<td>1.44</td>
</tr>
<tr>
<td>Total</td>
<td>7</td>
<td>4.1 to 11.5</td>
<td>7.4</td>
<td>8.35</td>
<td>1.56</td>
</tr>
<tr>
<td>Boys</td>
<td>8</td>
<td>4.7 to 12.0</td>
<td>7.3</td>
<td>8.90</td>
<td>1.51</td>
</tr>
<tr>
<td>Girls</td>
<td>8</td>
<td>4.5 to 13.5</td>
<td>9.0</td>
<td>9.22</td>
<td>1.21</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>4.5 to 13.5</td>
<td>9.0</td>
<td>9.06</td>
<td>1.42</td>
</tr>
</tbody>
</table>

In reading achievement the mean grade placements were at or above the norms, and girls were ahead of the boys in all grades. Children's achievement ranged from as many as six grades in fourth grade to nine grades in the sixth and eighth grades. The standard deviations for boys were slightly greater than the girls in each grade.
The ranges, means, and standard deviations on the reading growth scores were computed from the grade placement equivalents. These are presented in Table VI.

**TABLE VI**

**RANGES, MEANS, STANDARD DEVIATIONS ON RATE OF READING GROWTH SCORES**

<table>
<thead>
<tr>
<th>Sex</th>
<th>Grades</th>
<th>Limits</th>
<th>Range</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>4 to 5</td>
<td>-2.1 to -4.5</td>
<td>6.6</td>
<td>1.04</td>
<td>.84</td>
</tr>
<tr>
<td>Girls</td>
<td>4 to 5</td>
<td>-2.7 to -3.9</td>
<td>6.6</td>
<td>1.08</td>
<td>.78</td>
</tr>
<tr>
<td>Total</td>
<td>4 to 5</td>
<td>-2.7 to -4.5</td>
<td>7.2</td>
<td>1.06</td>
<td>.82</td>
</tr>
<tr>
<td>Boys</td>
<td>5 to 6</td>
<td>-2.5 to -4.1</td>
<td>6.6</td>
<td>.70</td>
<td>.87</td>
</tr>
<tr>
<td>Girls</td>
<td>5 to 6</td>
<td>-2.9 to -4.6</td>
<td>7.5</td>
<td>.73</td>
<td>.87</td>
</tr>
<tr>
<td>Total</td>
<td>5 to 6</td>
<td>-2.9 to -4.6</td>
<td>7.5</td>
<td>.72</td>
<td>.87</td>
</tr>
<tr>
<td>Boys</td>
<td>6 to 7</td>
<td>-1.7 to -4.4</td>
<td>6.1</td>
<td>1.60</td>
<td>.87</td>
</tr>
<tr>
<td>Girls</td>
<td>6 to 7</td>
<td>-3.4 to -4.9</td>
<td>8.3</td>
<td>1.54</td>
<td>.86</td>
</tr>
<tr>
<td>Total</td>
<td>6 to 7</td>
<td>-3.4 to -4.9</td>
<td>8.3</td>
<td>1.57</td>
<td>.86</td>
</tr>
<tr>
<td>Boys</td>
<td>7 to 8</td>
<td>-2.5 to -3.7</td>
<td>6.2</td>
<td>.70</td>
<td>.74</td>
</tr>
<tr>
<td>Girls</td>
<td>7 to 8</td>
<td>-1.5 to -3.6</td>
<td>5.1</td>
<td>.73</td>
<td>.73</td>
</tr>
<tr>
<td>Total</td>
<td>7 to 8</td>
<td>-2.5 to -3.7</td>
<td>6.2</td>
<td>.71</td>
<td>.74</td>
</tr>
</tbody>
</table>

The greatest mean growth was from grades six to seven and next highest was from grades four to five with one year or more of gain. The least progress in mean performance was from grades five to six and seven to eight which had less than one year of increase. There was a tendency for the standard deviation to remain relatively constant.
Correlation Findings

The point biserial correlation of .07 in favor of the girls was found between intelligence as the continuous variable and sex as a truly dichotomous variable. This was statistically significant at the five per cent level.

The product moment correlations relating IQ to reading grade placement for boys, girls, and the total group for each grade are shown in Table VII.

**TABLE VII**

PRODUCT MOMENT CORRELATIONS FOR IQ WITH READING GRADE PLACEMENT

<table>
<thead>
<tr>
<th>Grade</th>
<th>Boys</th>
<th>Girls</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>.75**</td>
<td>.78**</td>
<td>.77**</td>
</tr>
<tr>
<td>5</td>
<td>.81**</td>
<td>.80**</td>
<td>.80**</td>
</tr>
<tr>
<td>6</td>
<td>.84**</td>
<td>.83**</td>
<td>.84**</td>
</tr>
<tr>
<td>7</td>
<td>.89**</td>
<td>.89**</td>
<td>.89**</td>
</tr>
<tr>
<td>8</td>
<td>.85**</td>
<td>.85**</td>
<td>.85**</td>
</tr>
</tbody>
</table>

Sample Size 502 502 1004

*Significant at five per cent level

**Significant at one per cent level


2Ibid.
All correlations were uniformly high as hypothesized. A trend was noted for the correlations to increase with each successive grade level except for eighth grade. The results for boys and girls were similar.

The product moment correlations, with IQ as one variable and rate of reading growth as the other variable, were found for grades four to five, five to six, six to seven, seven to eight. Results are given in Table VIII.

**TABLE VIII**

PRODUCT MOMENT CORRELATIONS FOR IQ WITH RATE OF READING GROWTH

<table>
<thead>
<tr>
<th>Grades</th>
<th>Boys</th>
<th>Girls</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 to 5</td>
<td>.37**</td>
<td>.23**</td>
<td>.31**</td>
</tr>
<tr>
<td>5 to 6</td>
<td>.19**</td>
<td>.27**</td>
<td>.23**</td>
</tr>
<tr>
<td>6 to 7</td>
<td>.00</td>
<td>-.05</td>
<td>-.03</td>
</tr>
<tr>
<td>7 to 8</td>
<td>-.21**</td>
<td>-.24**</td>
<td>-.22**</td>
</tr>
</tbody>
</table>

Sample Size

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>502</td>
<td>502</td>
<td>1004</td>
</tr>
</tbody>
</table>

* $r$ significant at five per cent level$^3$
** $r$ significant at one per cent level$^4$

$^3$Ibid.

$^4$Ibid.
A considerable drop appeared in the coefficients from grades six to seven for each sex. The correlations for girls were somewhat larger than for the boys with the exception of grades four to five where boys showed the highest degree of association.

The point biserial correlations between reading grade placement and sex with boys given 0 and girls 1 were found for grades four, five, six, seven, and eight. The results are given in Table IX.

### TABLE IX

**POINT BISERIAL CORRELATIONS ON SEX AND READING GRADE PLACEMENT**

<table>
<thead>
<tr>
<th>Grade</th>
<th>$r$</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>.16**</td>
</tr>
<tr>
<td>5</td>
<td>.12**</td>
</tr>
<tr>
<td>6</td>
<td>.11**</td>
</tr>
<tr>
<td>7</td>
<td>.10**</td>
</tr>
<tr>
<td>8</td>
<td>.10**</td>
</tr>
</tbody>
</table>

Sample Size 1004

* $r$ Significant at five per cent level

** $r$ Significant at one per cent level

$^5$Ibid.

$^6$Ibid.
A pattern was found in which these correlations decreased with increase in grades up to seventh. Although the higher relations were in the lower grades, mean differences in reading grade placement were small.

With sex the dichotomous variable and rate of reading growth the continuous variable, point biserial correlations were calculated. Table X presents the coefficients obtained in this fashion.

**TABLE X**

**POINT BISEXIAL CORRELATIONS ON SEX AND RATE OF READING GROWTH**

<table>
<thead>
<tr>
<th>Grades</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 to 5</td>
<td>.03</td>
</tr>
<tr>
<td>5 to 6</td>
<td>.01</td>
</tr>
<tr>
<td>6 to 7</td>
<td>-.03</td>
</tr>
<tr>
<td>7 to 8</td>
<td>.02</td>
</tr>
</tbody>
</table>

Sample Size 1004

* r Significant at five per cent level 7

** r Significant at one per cent level 8

These results showed consistently insignificant relations with little fluctuation from level to level.

7*Ibid.
8*Ibid.
Graphic Representation of Data

Four groups were selected in terms of IQ. On this basis, reading grade placement for boys, reading grade placement for girls, rate of reading growth for boys, and rate of reading growth for girls were presented graphically as shown in Figures 1, 2, 3, 4, respectively. In every case \( \text{Q}^4 \) represented the highest group, \( \text{Q}^3 \) the middle high, \( \text{Q}^2 \) the middle low, and \( \text{Q}^1 \) the lowest group for consecutive grades four to eight inclusive. Each group comprised twenty-five per cent of the total.

The four lines in both Figures 1 and 2 revealed the same general shape with continuous progress from grade to grade. Each group from the lowest to the highest exceeded the preceding group in achievement. However, \( \text{Q}^1 \) showed positive acceleration, whereas \( \text{Q}^4 \) displayed negative acceleration.

In Figures 3 and 4 all four groups tended to make less progress from grades five to six than from grades four to five, to make the most gain from grades six to seven, and then to regress from grades seven to eight. There was a noticeable trend for the highest group to exceed the other three groups in growth from grades four to five and from grades five to six, but to fall below the other groups from grades seven to eight.
FIGURE 1

BOYS' MEAN READING GRADE PLACEMENT IN TERMS OF QUARTILE IQ GROUPS
FIGURE 2

GIRLS' MEAN READING GRADE PLACEMENT IN TERMS OF QUARTILE IQ GROUPS
FIGURE 3

BOYS' MEAN RATE OF READING GROWTH IN TERMS OF QUARTILE IQ GROUPS
FIGURE 4

GIRLS' MEAN RATE OF READING GROWTH IN TERMS OF QUARTILE IQ GROUPS
CHAPTER V

SUMMARY AND CONCLUSIONS

I. SUMMARY

The basic problem of this investigation was to determine whether or not any relation existed between intelligence and sex, intelligence and reading grade placement, intelligence and rate of reading growth, sex and reading grade placement, and sex and rate of reading growth. The longitudinal technique was utilized with 502 boys, 502 girls, making a total of 1,004 cases from grades four through eight in the Omaha Public Schools.

Means, standard deviations, limits, and ranges for all scores were presented in Tables IV, V, and VI. The sample appeared characteristic of most intellectual levels. The standard deviations were in near agreement with those obtained in earlier work with the Terman-McNemar Test of Mental Ability. The dispersion of reading achievement and rate of reading growth scores were relatively large from level to level as expected. The mean reading grade placements were at or above the grade level which was seemingly appropriate for the tested group. The means for rate of reading growth extended from under a year of growth to greater than one year.
Correlation coefficients were computed and displayed in Tables VII, VIII, IX, and X. They provided the following results:

1. Intelligence and sex had a slight association which was statistically significant beyond the five per cent level.

2. The highest correlations obtained in this study were those measuring the relations between IQ and reading grade placement. All were significant at the one per cent level.

3. The greatest range of correlation coefficients in this thesis was found in measuring the relation between IQ and rate of reading growth. Correlations were, as a whole, low positive, for grades four to five and five to six, but low negative for grades seven to eight. These were all statistically significant at the one per cent level. Negligible or indifferent relations were shown in grades six to seven. These were not statistically significant.

4. The slight relations between sex and reading grade placement were all statistically significant beyond the one per cent level.

5. Negligible relations were found between sex and rate of reading growth. None of these were significant at the five per cent level.
Graphic representation of the data seemed to be in harmony with correlation results. The more intelligent students started at a higher level and continued to achieve above the less intelligent pupils. Apparently, those of greater mental ability gained more in reading earlier while those with less mental ability made their greatest gains later.

II. CONCLUSIONS

From the data compiled the following conclusions have been drawn:

1. In comparing intelligence to sex significance in favor of the girls was found.

2. Intelligence was a highly dependable predictor of successful reading grade achievement in the elementary school.

3. Intelligence was related to rate of reading growth at all levels for boys and girls except from sixth to seventh grades where it showed no predictive value. In the early grades high intelligence paralleled rapid rate of reading growth; whereas, in the upper grades high intelligence corresponded with slower rate of reading growth.
4. Although sex was significantly related to reading grade achievement in that girls did better than boys, the relation was considerably less pronounced than for intelligence.

5. Sex was not related to rate of reading growth.

**Recommendations for Further Research**

1. A similar study repeated in the primary and secondary grades should be made.

2. This experiment should be repeated with other batteries of reading tests or with different measures of achievement in the areas such as arithmetic and language.

3. Investigations should be made of the relations between factors, such as personality, physical handicaps, socio-economic status, and chronological age and school achievement.
BIBLIOGRAPHY
BIBLIOGRAPHY


APPENDIX
INSTRUCTIONS TO STUDENTS:

This is a reading test. In taking it you will show how many words you know and how well you understand what you read. No one can do the whole test correctly, but you should answer as many items as you can. Work as fast as you can without making mistakes.

DO NOT WRITE OR MARK ON THIS TEST BOOKLET UNLESS TOLD TO DO SO BY THE EXAMINER.
TEST 1 — SECTION A

1. addition 1 victory 2 review 3 subtraction 4 hammer — 1
2. unknown 1 neglect 2 property 3 known 4 drum — 2
3. add 1 about 2 house 3 sometime 4 subtract — 3
4. whole 1 item 2 part 3 sweet 4 lower — 4
5. domestic 1 foreign 2 election 3 contrary 4 perish — 5
6. advance 1 autumn 2 decrease 3 cottage 4 model — 6
7. divisor 1 plunge 2 submit 3 multiplier 4 line — 7
8. fraction 1 parrot 2 paddle 3 spacious 4 integer — 8
9. purchase 1 sale 2 spoke 3 market 4 cloud — 9
10. similar 1 publish 2 burden 3 reveal 4 unlike — 10
11. total 1 carriage 2 fraction 3 native 4 treasure — 11
12. even 1 rapid 2 odd 3 promise 4 regular — 12
13. irregular 1 ashore 2 hymn 3 countenance 4 systematic — 13
14. equality 1 inequality 2 scandal 3 rely 4 pare — 14
15. annex 1 casket 2 separate 3 balloon 4 adult — 15
16. wholesale 1 coral 2 ascribe 3 ileecy 4 retail — 16
17. concave 1 flaw 2 convex 3 discretion 4 caramel — 17
18. creditor 1 meridian 2 expand 3 debtor 4 dough — 18
19. base 1 surface 2 diagonal 3 altitude 4 contents — 19
20. assets 1 expenses 2 liabilities 3 gain 1 statement — 20
21. bisect 1 binomial 2 reduce 3 double 4 increase — 21
22. assessment 1 reduction 2 efiace 3 loom 4 dividend — 22

TEST 1 — SECTION B

23. melt 1 permit 2 human 3 freeze 4 farther — 23
24. spring 1 matter 2 autumn 3 rivulet 4 year — 24
25. invisible 1 visible 2 reasonable 3 monkey 4 stupid — 25
26. contract 1 package 2 couch 3 expand 4 glitter — 26
27. natural 1 increase 2 accidental 3 spread 4 artificial — 27
28. bleach 1 badge 2 dye 3 tell 4 madman — 28
29. constant 1 attack 2 grade 3 variable 4 stuff — 29
30. decay 1 want 2 optical 3 punctual 4 growth — 30
31. compound 1 sturdy 2 scramble 3 element 4 rave — 31
32. consume 1 hillside 2 develop 3 fern 4 girdle — 32
33. repel 1 attract 2 poisonous 3 motto 4 staple — 33
34. preserve 1 eccentric 2 diary 3 annihilate 4 soot — 34
35. molten 1 indigo 2 frozen 3 frenzy 4 rafter — 35
36. segregate 1 colonial 2 naught 3 ginger 4 cluster — 36
37. sterile 1 plush 2 fertile 3 huff 4 minor — 37
38. transparent 1 shawl 2 opaque 3 studied 4 inclination — 38
39. analysis 1 shorten 2 concrete 3 amalgamate 4 synthesis — 39
40. conserve 1 patter 2 identify 3 janitor 4 expend — 40
41. terminal 1 origin 2 faucet 3 engraver 4 countess — 41
42. septic 1 germ 2 tank 3 sterile 4 separate — 42
43. mutation 1 reduction 2 heredity 3 deaf 4 environmental — 43
44. agitation 1 quiescent 2 agrarian 3 agnostic 4 cogitation — 44
45. abundant 1 recent 2 minute 3 process 4 summon — 45
SAMPLE: B. large 1 rich 2 small
gone 4 away

Correct Test
Booklet Mark
2 B

Correct Answer
Sheet Mark
B 1 2 3 4

TEST 1 — SECTION C

46. war 1 peace 2 certain
   3 dark 4 number

47. boss 1 mortgage 2 employee
   3 scan 4 quill

48. interior 1 rage 2 scorn
   3 relate 4 exterior

49. enemy 1 ally 2 interest
   3 storm 4 practice

50. citizen 1 slope 2 alien
   3 operation 4 divine

51. government 1 spirit 2 increase
   3 anarchy 4 wheel

52. lawful 1 naught 2 quote
   3 illegal 4 reprove

53. publish 1 suppress 2 decay
   3 most 4 wax

54. liberty 1 glory 2 captivity
   3 manufacture 4 standard

55. honesty 1 strenuous 2 fraud
   3 prior 4 indifferent

56. majority 1 beggar 2 equity
   3 minority 4 forge

57. challenge 1 thimble 2 indulge
   3 defend 4 harbinger

58. opponent 1 wallet 2 radical
   3 tenant 4 assistant

59. conquest 1 defeat 2 strain
   3 salary 4 process

60. assault 1 countenance 2 delivery
   3 protect 4 festival

61. organization 1 spell 2 dissolution
   3 ripple 4 theme

62. freedom 1 depart 2 fortune
   3 example 4 subjection

63. descendant 1 scenery 2 ascent
   3 ancestor 4 volunteer

64. prohibition 1 minion 2 toleration
   3 reduction 4 phosphorous

65. corruption 1 integrity 2 lowly
   3 cravat 4 racketeer

66. system 1 connect 2 agree
   3 beam 4 chaos

67. neutrality 1 leaves 2 controversy
   3 millinery 4 hereditary

68. truce 1 hobble 2 flier
   3 campaign 4 economic

TEST 1 — SECTION D

69. present 1 absent 2 milk
   3 number 4 front

70. direct 1 afraid 2 loud
   3 indirect 4 health

71. perfect 1 stood 2 imperfect
   3 equal 4 manner

72. pit 1 tumble 2 compel
   3 reduce 4 peak

73. unusual 1 common 2 meadow
   3 assure 4 drown

74. definite 1 indulge 2 gobble
   3 indefinite 4 escort

75. positive 1 peel 2 namely
   3 lonesome 4 negative

76. progress 1 dizzy 2 decline
   3 caravan 4 concrete

77. agreement 1 scripture 2 discord
   3 stag 4 tinkle

78. convict 1 combine 2 moral
   3 prejudice 4 free

79. cause 1 effect 2 against
   3 certain 4 cold

80. final 1 original 2 caught
   3 meal 4 establish

81. reverence 1 loaf 2 dishonor
   3 philosopher 4 screen

82. oppose 1 standard 2 gobble
   3 serve 4 drove

83. criticism 1 infest 2 coupling
   3 commendation 4 feud

84. hypocrisy 1 cooky 2 chide
   3 blithe 4 fidelity

85. esteem 1 pitch 2 factory
   3 guilty 4 blame

86. initial 1 hustle 2 terminal
   3 fraught 4 eddy

87. worthless 1 add 2 merit
   3 instruct 4 credit

88. revelation 1 filial 2 moulder
   3 sorcery 4 disguise

89. falter 1 fern 2 unity
   3 execute 4 girdle

90. intricate 1 efficiency 2 clay
   3 simple 4 delicacy
91. Read the following names:
Mary Louis Roger Elizabeth
Mark the number which shows the first letters of the boys’ names.
1 ML 2 RE 3 LR 4 ME

92. Read these numbers:
5 1 0 6 7 4 5 9 8 0
Mark the letter of the third number after 6.
a 7 b 5 c 9 d 1

93. The area of a triangle is found by multiplying ½ the base by the altitude. Mark the letter of the number of square feet in a triangle which has a base of 4 feet and an altitude of 3 feet.
a 6 b 12 c 4 d 2

94. Latitude is the distance north or south from the equator. Mark the letter of the following ship’s reading which indicates latitude.
a West 8° 2' 20"
b North 2° 48' 10"
c East 10° 19' 30"

95. American is the proper adjective derived from the proper noun, America. Mark the number of the word which is the proper adjective of the proper noun, Arabia.
1 Arabia’s 2 Arabia 3 Arabian

96. Regular adverbs are formed by adding ly to the adjectives, such as beautiful, beautifully. Mark the number of the word which is the adverb formed from the adjective, sweet.
1 sweetly 2 sweetest 3 sweeter

97. The word, full, used as a suffix drops one l; as cup, cupful. Mark the number of the word which has the word full added as a suffix to the word, mouth.
1 full 2 mouthful 3 mouth full

98. Nouns ending in y, when the y is preceded by a vowel, form the plural regularly by adding s; as monkey, monkeys. Mark the number of the word which is the plural of donkey.
1 donkeys 2 donkey 3 donkey’s

99. Read the following recipe:
2 cups flour
½ cup lard
1 teaspoonful salt
milk
2 teaspoonfuls baking powder
Take the flour, salt, and baking powder and sift together; mix in the lard thoroughly; add the milk; roll the dough out about one-half inch thick and cut with a biscuit cutter. Bake in a hot oven about twelve minutes. Mark the number of the item which is the fourth thing to be used in mixing the above recipe.
1 milk 2 lard 3 salt 4 baking powder

100. The length of the diagonal line in a rectangle is found by adding the square of the base to the square of the altitude and then extracting the square root of this sum. Mark the letter which indicates the length in inches of the diagonal of a rectangle whose base is 8 inches and whose altitude is 6 inches. (Eight squared is 64, 6 squared is 36, and 10 is the square root of 100.)
a 6 b 8 c 10 d 36

STOP NOW WAIT FOR FURTHER INSTRUCTIONS
TEST 2 — SECTION F

101. The introduction is found in what part of a book?
   1 beginning  2 middle  3 end  __101

102. The appendix is found in what part of a book?
   1 beginning  2 middle  3 end  __102

103. A glossary contains
   1 index  2 definitions  3 pictures  __103

104. The bibliography is found in what part of a book or chapter?
   1 beginning  2 middle  3 end  __104

105. A preface is found in what part of a book?
   1 beginning  2 middle  3 end  __105

Look at the following and answer questions 106 and 107.

Table of Contents

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The Vastness of the Industry</td>
<td>1</td>
</tr>
<tr>
<td>2. Methods of Handling</td>
<td>25</td>
</tr>
<tr>
<td>3. Land and Water Transport</td>
<td>40</td>
</tr>
<tr>
<td>4. Chicago's Stockyards</td>
<td>55</td>
</tr>
<tr>
<td>5. The Embargo</td>
<td>60</td>
</tr>
<tr>
<td>6. Reindeer Meat</td>
<td>70</td>
</tr>
<tr>
<td>7. Imported Meat</td>
<td>77</td>
</tr>
</tbody>
</table>

106. On what page does "Methods of Handling" begin?
   a 1  b 25  c 40  d 55  __106

107. Which of these stories is on page 75?
   1 Reindeer Meat  2 The Embargo  3 Imported Meat  __107

Look at this index and find the answers to questions 108, 109, and 110.

INDEX

France: Advantages of climate and surface of, 298-99; cities of, 301-2; foreign possessions of, 298, 349-51; industries and manufacturing, 300; location of, 298; people of, 300; problems of, 302-3; transportation in, 299.
French Africa, problems of, 351.
French Equatorial Africa: location of, 380; products of, 350.
French Guiana, 251.
French Indo-China: capital of, 393; industries of, 392; problems of its people, 393.
French Somaliland, 350, 355.

108. Information concerning French Guiana will be found on what page?
   a 298-99  b 351  c 251  d 355  __108

109. Information concerning manufacturing in France will be found on what page?
   a 298-99  b 301-2  c 300  d 299  __109

110. Information concerning products of French Equatorial Africa will be found on what page?
   a 380  b 351  c 355  d 350  __110
TEST 2 — SECTION G

After the Revolutionary War, America was thrown upon her own economic and social resources. Some of the problems are particularly well illustrated by the textile industry.

In the early days it was difficult for America to make much progress or to compete with England in this field. England would not allow machinery or models of machines to be exported and discouraged their skilled mechanics from leaving their own country. However, in 1789, Samuel Slater, who had previously worked in an English factory, came to Rhode Island and built the first power cotton spinning mill in America. He has been called the "Father of American Manufacture."

Even with the aid of such men as Slater the textile industry developed very slowly. Fifteen years after the first cotton mill was built, there were only four cotton mills in America. The passing of the Embargo Act of 1807 and the War of 1812 stimulated manufacturing temporarily, but the close of the War of 1812 was followed by a slump in American industry which gave rise to additional protective tariff laws.

During the Civil War manufacturing of textiles was greatly hindered because of lack of raw materials. However, after 1865 a new industrial era began. Many mechanical improvements were made and "mass production" was instituted. Before long the United States had advanced to first rank among textile-producing nations. She has held this position until recent years when foreign competition appears to have become a very important factor.
116. The best title for the story is
   1 Textiles  2 Raw Materials  3 Communication

117. Samuel Slater built a
   1 cotton gin  2 telegraph  3 spinning mill

118. In 1805, there was the following number of cotton mills
   1 two  2 four  3 ten

119. The Embargo Act of 1807 was a
   1 treaty  2 restriction  3 amendment

120. Mechanical improvements were responsible for
   1 no production  2 limited production  3 mass production

121. The textile industry includes
   1 mining  2 agriculture  3 manufacture of cloth

122. England affected the early development of the textile industry in the United States by
   1 encouragement  2 hindrance  3 financing

123. The best title for this story is
   1 Origin of Fish  2 Commercial Fishing  3 Fish

124. The fish is a
   1 variation  2 vertebrate  3 biped
125. “Known species” means
1 money 2 samples 3 varieties ——125

126. The third state in amount of commercial fishing in one year was
1 California 2 Massachusetts 3 Maine ——126

127. About 20 per cent of the fish were caught in
1 Alaska 2 California 3 Maine ——127

128. The fish having the greatest food value is
1 Tuna 2 Salmon 3 Mackerel ——128

129. One of the by-products of fish is
1 rubber 2 isinglass 3 wood ——129

GO  RIGHT ON TO THE NEXT STORY

✓ Read this story:

The railroad has had its most rapid and largest development in the United States, even though the locomotive was invented in England. Railroad companies were organized in the United States in 1826, and locomotives were first run in 1830. These early railroads were operated on a small scale and connected only the larger cities of the Atlantic seaboard.

Since its beginning, railroad construction has been carried on periodically. During the decade preceding the Civil War there was very active building in the South. At this time railroads were built between the Alleghany mountains and the Mississippi river. After the Civil War there was very little construction until 1868, at which time there began a great activity for a period of five years. This resulted in an over-expansion of railroad lines in the far West and the middle West. The principal railroads in the United States had been completed by 1890, and all additional construction merely supplemented previously built lines. Since 1920 there has been an abandonment of certain lines, so that at this time there is an actual reduction of mileage in the railway transportation system.

The development of the railroad has been one of the principal factors in the economic and social revolution. It has provided wider contacts, a better system for distribution of products, and a greater variety of materials. With accurate train schedules and quick delivery service, the merchant does not need to carry a large stock of supplies, but may conduct his business with a smaller amount of capital. Improvement in transportation facilities has given man a wider field of interest and otherwise has been an important factor in the growth of our country.

✓ Mark the number of each correct answer. You may look back to find the answers.

130. The best title for this story is
1 Invention of Locomotives
2 Transportation Systems
3 Railroads ——130

131. The locomotive was invented in
1 England 2 United States 3 France ——131

132. The principal railroad lines had been constructed by
1 1868 2 1890 3 1885 ——132

133. Railroad construction in the United States has been
1 steady 2 systematic 3 irregular ——133

134. Transportation facilities in 1826 were
1 good 2 fair 3 poor ——134

135. Better transportation facilities enabled merchants to conduct their business with
1 less capital 2 about the same capital 3 more capital ——135

GO  RIGHT ON TO THE NEXT PAGE
The Telegraph

For eleven years Samuel Morse had been trying to interest someone in his invention of the telegraph, and endured great poverty in attempting to carry out the experimentation. Finally, in 1843, Congress appropriated $30,000.00 for this purpose, and Morse was enabled to make rapid progress in the development of telegraphy.

In the spring of 1844 when the political parties were holding their conventions, the telegraph was ready for practical application. He was able to notify the candidates and the people in Washington of the results of the conventions before they were able to secure the information otherwise. This aroused the public interest, and there was a general realization of the remarkable accomplishment. From that time forward the telegraphic system grew with astounding rapidity, and covered the entire world within thirty years.

At first the telegraph was mechanically complicated, but with constant research the instruments became simpler. During recent times, however, with the complexities of modern life the system has become somewhat involved. Every city has an intricate system of telegraph wires underneath the surface of the streets, and even the continents are connected by cables in the oceans.

The development of the telegraph has brought the world closer together by providing a method whereby ideas and messages of the entire world may be brought within the reach of all in a minimum of time. This process has been greatly accelerated by recent improvements in wireless telegraphy.

Mark the number of each correct answer. You may look back to find the answers.

136. An appropriation consists of
1 congratulations  2 money  3 inventions  [136]

137. An intricate system is
1 complicated  2 antique  3 radical  [137]

138. The best title for the first paragraph is statement
1 2 3 4 5  [138]

139. The best title for the second paragraph is statement
4 5 6 7 8  [139]

140. The best title for the third paragraph is statement
1 2 3 4 5  [140]

141. The best title for the fourth paragraph is statement
4 5 6 7 8  [141]

The following things are mentioned in the story:

Complex system
Mechanically complicated instruments
Wireless telegraphy
Simpler instruments

The order in which the above things were mentioned in the story is as follows:

142. Complex system was
1st 2nd 3rd 4th  [142]

143. Mechanically complicated instruments were
1st 2nd 3rd 4th  [143]

144. Wireless telegraphy was
1st 2nd 3rd 4th  [144]

145. Simpler instruments were
1st 2nd 3rd 4th  [145]
# California Reading Test

**Intermediate Grades 7-8-9**

**Form AA**

**Devised by Ernest W. Tegs and Willis W. Clark**

---

**Diagnostic Profile**

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**Tests and Sections**

- **1. Reading Vocabulary**
  - A. Mathematics
  - B. Science
  - C. Social Science
  - D. General
  - **Total (A+B+C+D)**: 90

- **2. Reading Comprehension**
  - E. Following Directions
  - F. Reference Skills
  - G. Interpretations
  - **Total (E+F+G)**: 55

---

**Diagnostic Analysis of Learning Difficulties**

1. **Reading Vocabulary**
   - A. Mathematics
   - B. Science
   - C. Social Science
   - D. General

2. **Reading Comprehension**
   - E. Following Specific Directions
   - F. Reference Skills
   - G. Interpretation of Meanings

---

See **Manual** for instructions on preparation of Diagnostic Profile and Diagnostic Analysis of Learning Difficulties.
INSTRUCTIONS TO STUDENTS:

This is a reading test. In taking it you will show how many words you know and how well you understand what you read. No one can do the whole test correctly, but you should answer as many items as you can. Work as fast as you can without making mistakes.

DO NOT WRITE OR MARK ON THIS TEST BOOKLET UNLESS TOLD TO DO SO BY THE EXAMINER.
DIRECTIONS: If two words are the same or mean the same, mark S as you are told. If they are different or mean different things, mark D.

| SAMPLE: A. | dog...........dog | dog....S......dog |
| SAMPLE: B. | boy.............girl | boy.............girl |

**TEST 1 — SECTION A**

1. run...........have
2. fire...........fire
3. mother..............mother
4. boy...........bay
5. chloride...............chloride
6. engrave...............engrave
7. distrust...............district
8. glossary...............gloomy
9. league...............league
10. shriek...............shrub
11. ponder...............poplar
12. whither...............weather
13. forceps...............forceps
14. manipulation............manifestation
15. interpellation............interpolation
16. WARRIOR...............WARRIOR
17. PLAIN T...............PLAIT
18. PLEAS ANT...............PLEAS ANT
19. HEMORRHAGE............HEMISPHERE
20. subterranean............SUBTERRANEAN
21. PINK...............PICK
22. THROUGH.............thorough
23. vaccination...........Vociferation
24. straighten.............straighten
25. miraculous............miraculous
DIRECTIONS: Look at the words which are given on the lower part of this page. Each line is numbered and each word has a smaller number, 1, 2, 3, or 4 in front of it. There are four words on each line. The examiner will pronounce one word from each line. You are to mark as you are told the number of the word that is pronounced.

PRACTICE EXERCISE

SAMPLE: C. 1 cow 2 horse 3 dog 4 goat  __  3  c
In this sample the word is dog, so the 3 is marked.

SAMPLE: D. 1 run 2 jump 3 throw 4 swing  __  d
You are to mark the number of the word that was pronounced. It is number 4.

TEST 1 — SECTION B

Mark as you have been told the number of the word pronounced.

26. 1 this 2 tree 3 my 4 ball  __  26
27. 1 grand 2 growl 3 grunt 4 great  __  27
28. 1 wrath 2 wreck 3 wrist 4 write  __  28
29. 1 Tuesday 2 Wednesday 3 Thursday 4 Monday  __  29
30. 1 singeing 2 moulting 3 chattering 4 singing  __  30
31. 1 June 2 January 3 July 4 August  __  31
32. 1 thoroughfare 2 throughout 3 through 4 thought  __  32
33. 1 practice 2 precious 3 prairie 4 practical  __  33
34. 1 warship 2 watch 3 wanness 4 warrant  __  34
35. 1 electrocute 2 efficient 3 elimination 4 elasticity  __  35
36. 1 premium 2 political 3 public 4 primary  __  36
37. 1 blizzard 2 blight 3 bluster 4 blotch  __  37
38. 1 associate 2 acquire 3 avenue 4 arrival  __  38
39. 1 YIELD 2 YOUNG 3 YACHT 4 YAM  __  39
40. 1 WHARF 2 WHISTLE 3 wholesale 4 whirl  __  40
41. 1 recipe 2 recital 3 regime 4 receipt  __  41
42. 1 carnival 2 contagious 3 cautious 4 cafeteria  __  42
43. 1 MASSACRE 2 menagerie 3 material 4 maximum  __  43
44. 1 chauffeur 2 chloroform 3 chapeau 4 charlatan  __  44
45. 1 rheometer 2 pneumonia 3 rheumatics 4 pneumatics  __  45
SAMPLE: E., little 1 blue 2 run 3 big 4 rich

TEST 1 — SECTION C

Correct Test Booklet Mark

Correct Answer Sheet Mark

| 46. high  | 1 crooked | 2 low  | 3 lost | 4 end | 46 |
| 47. give  | 1 raw     | 2 bill | 3 stem | 4 receive | 47 |
| 48. cry   | 1 mind    | 2 laugh | 3 family | 4 add | 48 |
| 49. strong | 1 brook   | 2 that | 3 weak | 4 sugar | 49 |
| 50. sweet | 1 sour    | 2 hint | 3 feature | 4 swell | 50 |
| 51. youth | 1 deal    | 2 cause | 3 age | 4 arrive | 51 |
| 52. hastily | 1 hate   | 2 aid | 3 love | 4 leisurely | 52 |
| 53. safety | 1 danger | 2 alarm | 3 refuse | 4 hate | 53 |
| 54. attack | 1 age    | 2 defense | 3 warn | 4 alarm | 54 |
| 55. below | 1 love    | 2 cause | 3 above | 4 permit | 55 |
| 56. despair | 1 grocery | 2 demolish | 3 orator | 4 hope | 56 |
| 57. tame | 1 wild    | 2 repeat | 3 treat | 4 spot | 57 |
| 58. solid | 1 soldier | 2 liquid | 3 torrid | 4 whistle | 58 |
| 59. east  | 1 under  | 2 ease | 3 west | 4 best | 59 |
| 60. aloud | 1 bracelet | 2 chirp | 3 almond | 4 silent | 60 |
| 61. dainty | 1 assume | 2 curtain | 3 dairy | 4 coarse | 61 |
| 62. inferior | 1 conquer | 2 invite | 3 ideal | 4 superior | 62 |
| 63. peril | 1 safety | 2 mental | 3 remote | 4 purse | 63 |
| 64. victor | 1 statue | 2 loser | 3 treaty | 4 wallet | 64 |
| 65. sad | 1 mood | 2 vocal | 3 glad | 4 sap | 65 |
| 66. unseen | 1 notice | 2 valor | 3 unstable | 4 visible | 66 |
| 67. traitor | 1 friend | 2 weasel | 3 young | 4 tragic | 67 |
| 68. expensive | 1 infect | 2 excel | 3 cheap | 4 experiment | 68 |
SAMPLE: F. large 1 pretty 2 run 3 big 4 rich _3 F

<table>
<thead>
<tr>
<th>TEST 1 — SECTION D</th>
</tr>
</thead>
<tbody>
<tr>
<td>69. enemy 1 thicken 2 weigh 3 foe 4 subdue</td>
</tr>
<tr>
<td>70. promise 1 compact 2 pure 3 neutral 4 lovely</td>
</tr>
<tr>
<td>71. lie 1 amateur 2 falsehood 3 denial 4 casual</td>
</tr>
<tr>
<td>72. trade 1 merchant 2 vein 3 exchange 4 ideal</td>
</tr>
<tr>
<td>73. hard 1 deed 2 hint 3 feature 4 solid</td>
</tr>
<tr>
<td>74. wit 1 hail 2 fear 3 humor 4 ink</td>
</tr>
<tr>
<td>75. calm 1 stucco 2 token 3 vanity 4 quiet</td>
</tr>
<tr>
<td>76. industry 1 business 2 infantry 3 repent 4 outbreak</td>
</tr>
<tr>
<td>77. consent 1 love 2 permission 3 alarm 4 cause</td>
</tr>
<tr>
<td>78. speech 1 defend 2 feast 3 talk 4 cure</td>
</tr>
<tr>
<td>79. prophet 1 mangle 2 obstruct 3 pleasant 4 forecaster</td>
</tr>
<tr>
<td>80. settlement 1 location 2 innocent 3 silent 4 wise</td>
</tr>
<tr>
<td>81. hush 1 keen 2 quiet 3 mood 4 hurl</td>
</tr>
<tr>
<td>82. freight 1 allow 2 easy 3 hurl 4 cargo</td>
</tr>
<tr>
<td>83. physician 1 doctor 2 enemy 3 leisure 4 ugly</td>
</tr>
<tr>
<td>84. magnificent 1 purchase 2 magician 3 impressive 4 stationary</td>
</tr>
<tr>
<td>85. abolish 1 ocean 2 cry 3 destroy 4 high</td>
</tr>
<tr>
<td>86. plenty 1 wonder 2 stem 3 friend 4 sufficient</td>
</tr>
<tr>
<td>87. tray 1 container 2 land 3 brook 4 expect</td>
</tr>
<tr>
<td>88. amuse 1 fertile 2 entertain 3 doubt 4 amount</td>
</tr>
<tr>
<td>89. hatred 1 haul 2 nurse 3 pedal 4 enmity</td>
</tr>
<tr>
<td>90. lecture 1 pulpit 2 rigor 3 sermon 4 ledge</td>
</tr>
</tbody>
</table>
TEST 2 — SECTION E

91. By crossing out two letters you can make count out of the word, country. Mark the number of the two letters which would be crossed out.
   1 ry  2 ct  3 nu  4 cy ——91

92. Find the name of the largest animal and mark its number.
   1 dog  2 rat  3 cow  4 sheep ——92

93. Some of the Roman numerals and their values are:
   IX = 9  XIX = 19
   XX = 20  XXI = 21
Mark the letter of the Roman numeral for 20.
   a XIX  b XX  c IX  d XXI ——93

94. Mark the number of the seventh word in this sentence.
   1 third  2 word  3 the  4 in ——94

95. Mark the letter which must be added to hors to make horse.
   i a s e ——95

96. Mark the sixth letter of the last word in this sentence.
   e a n r t ——96

97. Read the following names:
   Marie  Arthur  Richard  Mary
Mark the number which shows the first letter of the girls' names.
   1 A  2 M  3 R ——97

98. Read these numbers:
   6 3 4 8 5 2 1 9 0
Mark the letter of the third number to the right of 8.
   a 1  b 9  c 6  d 3 ——98

99. When two words are spoken as one, the shortened form is a contraction. The apostrophe denotes the missing letter; such as can not, can't. Mark the number of the word meaning do not in the form of a contraction.
   1 can't  2 do not
   3 doesn't  4 don't ——99

100. The suffix ness is used to form nouns meaning state or quality of being; such as sick, sickness. Mark the number of the word which has the suffix ness added to the word, white.
    1 sickness  2 ness
    3 whiteness  4 white ——100

STOP NOW WAIT FOR FURTHER INSTRUCTIONS
101. The preface is found in what part of a book?
   1 beginning  2 middle  3 end ____101

102. The index is found in what part of a book?
   1 beginning  2 middle  3 end ____102

103. help would come next after
   1 bird  2 king  3 yard ____103

104. pail would come next after
   1 quiet  2 jar  3 king ____104

105. Mark the letter of the page which shows where “Transportation” begins.
   a 1 b 19 c 43 d 50 ____105

106. Mark the number which shows what story begins on page 88.
   1 Poultry and Eggs  2 Communication  3 Transportation ____106

107. Mark the number which shows to which chapter the material on page 38 belongs.
   1 2 3 4 5 ____107

108. Mark the letter which shows on what page information about the Ohio River will be found.
   a 8 b 134 c 7 d 337 ____108

109. Mark the letter which shows on what page information concerning oil in Rumania will be found.
   a 383 b 400 c 329 d 331 ____109

110. Mark the letter which shows on what page information concerning the physical features of Oklahoma will be found.
   a 141 b 147 c 157 d 135 ____110
Camels live most of the time on the desert. They have padded feet, nostrils that can be closed in a storm, and thick bushy eyebrows and lashes which protect their eyes. Their stomachs and humps are made up of cells which store their water and food for future use on their long journeys through the desert wastes. They are the principal means of transportation on the Sahara Desert.

One of the large countries in North America is Canada. Canada has an irregular coast line with many fine harbors. It is lacking in large ports because of the ice-bound harbors in the winter, and this is a serious handicap to the development of trade. During the warm summer season, important agricultural products are grown.

Canada is rich in natural resources, but the population is still small. There are vast areas of valuable forests; the many fur-bearing animals are a source of great revenue, and the streams have unlimited possibilities for the development of power.
The Telephone

The telephone is a device for transmitting speech by means of electricity. The first patent for this instrument was granted to Alexander Graham Bell on March 7, 1876.

Since the original invention there have been many improvements in the mechanical features of telephones. Submarine cables have been laid across the ocean to permit communication between countries, and many overhead wires have been removed by running the wires through conduits under ground. As a result of a large amount of experimentation, we can now communicate by wireless telephone.

The principal achievement of the telephone is that of abridging space. By this means of communication, business transactions and conversations are more quickly completed and trade and commerce have been greatly stimulated. Thus we see that telephones have been a definite aid in the progress of our nation.

Mark the number of each correct answer. You may look back to find the answers.

122. Alexander Graham Bell was

1 an artist 2 an inventor 3 a navigator 4 a naturalist

123. Conduits have been used to remove

1 submarine cables 2 commerce 3 overhead wires 4 business transactions

124. The best title for the first paragraph is number

1 2 3 4 5

125. The best title for the second paragraph is number

2 3 4 5 6

126. The best title for the third paragraph is number

2 3 4 5 6

The following things are mentioned in the story:

Removing overhead wires
Granting the patent
Wireless telephone
Improving the telephone

The order in which the above things were mentioned in the story is as follows:

127. Improving the telephone was

1st 2nd 3rd 4th

128. Removing overhead wires was

1st 2nd 3rd 4th

129. Wireless telephone was

1st 2nd 3rd 4th

130. Granting the patent was

1st 2nd 3rd 4th

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Sec. G Score (number right)
INSTRUCTIONS TO STUDENTS:

This is an arithmetic test. In taking it you will show how well you can think and work problems. No one is expected to do the whole test correctly, but you should answer as many items as you can. Work as fast as you can without making mistakes.

DO NOT WRITE OR MARK ON THIS TEST BOOKLET UNLESS TOLD TO DO SO BY THE EXAMINER.
DIRECTIONS: Decide how each of the amounts below should be written as a number. Then mark as you are told the letter of each correct answer. For some of the problems none of the answers given may be correct. If you cannot work a problem, or if you think that none of the answers given is correct, mark the letter, e. In doing this test you should finish the first column before doing the second. Look at the samples to the right and see how they are marked.

**TEST 3 — SECTION A**

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<th>Correct Answer</th>
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<tr>
<td></td>
<td>b .034</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>c 34</td>
<td></td>
<td></td>
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<td></td>
<td>d 340</td>
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<td></td>
<td>e None</td>
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<td>2. One hundred eleven</td>
<td>a 100,11</td>
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<td></td>
<td>b 1101</td>
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<td></td>
<td>c 1011</td>
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<td></td>
<td>d 111,00</td>
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<td></td>
<td>e None</td>
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<td>3. Nine hundred fifty-two</td>
<td>a 952</td>
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<td>b 900,52</td>
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<td>4. Three hundred four</td>
<td>a 300,4</td>
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<td></td>
<td>b 3400</td>
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<td></td>
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<tr>
<td></td>
<td>e None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Two thousand six</td>
<td>a 2000,6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b 2,6000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>c 206</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>d 2006</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>e None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Two dollars and two cents</td>
<td>a $2.2$</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b $2.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>c $2.2$</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>d 2.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>e None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Sixty dollars and nine cents</td>
<td>a $60.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b $60.9$</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>c 60.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>d $60.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>e None</td>
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</tr>
</tbody>
</table>

**Sample A: Twelve**

<table>
<thead>
<tr>
<th>Correct Answer</th>
<th>Sheet Mark</th>
<th>Booklet Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>a 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b 12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c 11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sample B: Twenty**

<table>
<thead>
<tr>
<th>Correct Answer</th>
<th>Sheet Mark</th>
<th>Booklet Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>a 22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b 200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d 21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Read these Roman numerals. Then mark as you have been told the letter of each correct answer.**

8. IV means
   a 2
   b 4
   c 6
   d 8
   e None

9. XXX means
   a 25
   b 29
   c 30
   d 31
   e None

10. M means
    a 1000
    b 4000
    c 5000
    d 7000
    e None

**Find the smallest number, marked a, b, c, or d, in each of the following rows. Then mark its letter.**

11. a 321   b 226   c 128   d 190
12. a 3/5   b 1/4   c 3/5   d 5/6
13. a 20.01 b 21.3 c 2.0671 d 5.361
14. a 3/5   b .25   c .62 1/2 d 5/6
15. a 3/5   b 75%   c 3/5   d 5/6

**STOP**

NOW WAIT FOR FURTHER INSTRUCTIONS
### DIRECTIONS

Mark the letter or number of each correct answer. If you do not know an answer, or you think that none of the answers given is correct, you should mark the letter, e (items 16-19), or the number, 5 (items 20-30). Finish the first column before doing the second. Remember to do your figuring on scratch paper if you are marking your answers on an answer sheet.

---

**TEST 3 — SECTION B**

<table>
<thead>
<tr>
<th>16. $5 \times 8 =$</th>
<th>24. $#$ means</th>
<th>25. oz. means</th>
</tr>
</thead>
<tbody>
<tr>
<td>a 13</td>
<td>1 nickel</td>
<td>1 hour</td>
</tr>
<tr>
<td>b 40</td>
<td>2 quarter</td>
<td>2 inch</td>
</tr>
<tr>
<td>c ½</td>
<td>3 dime</td>
<td>3 ounce</td>
</tr>
<tr>
<td>d ¾</td>
<td>4 dollar</td>
<td>4 root</td>
</tr>
<tr>
<td>e None</td>
<td>5 None</td>
<td>5 None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>17. $9 \div 3 =$</th>
<th>26. $%$ means</th>
<th>27. $\pi$ means</th>
</tr>
</thead>
<tbody>
<tr>
<td>a 3</td>
<td>1 degree</td>
<td>1 pi</td>
</tr>
<tr>
<td>b 27</td>
<td>2 per cent</td>
<td>2 degree</td>
</tr>
<tr>
<td>c ½</td>
<td>3 inch</td>
<td>3 root</td>
</tr>
<tr>
<td>d 6</td>
<td>4 ratio</td>
<td>4 part</td>
</tr>
<tr>
<td>e None</td>
<td>5 None</td>
<td>5 None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>18. $18 + 2 =$</th>
<th>28. sec. means</th>
</tr>
</thead>
<tbody>
<tr>
<td>a 0</td>
<td>1 foot</td>
</tr>
<tr>
<td>b 1</td>
<td>2 part</td>
</tr>
<tr>
<td>c 10</td>
<td>3 second</td>
</tr>
<tr>
<td>d 25</td>
<td>4 ratio</td>
</tr>
<tr>
<td>e None</td>
<td>5 None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>19. $20 - 4 =$</th>
<th>29. &quot;$&quot; means</th>
</tr>
</thead>
<tbody>
<tr>
<td>a 5</td>
<td>1 angle</td>
</tr>
<tr>
<td>b ½</td>
<td>2 part</td>
</tr>
<tr>
<td>c 80</td>
<td>3 at</td>
</tr>
<tr>
<td>d 16</td>
<td>4 inch</td>
</tr>
<tr>
<td>e None</td>
<td>5 None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>20. $\div$ means</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 add</td>
</tr>
<tr>
<td>2 subtract</td>
</tr>
<tr>
<td>3 multiply</td>
</tr>
<tr>
<td>4 divide</td>
</tr>
<tr>
<td>5 None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>21. $+$ means</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 add</td>
</tr>
<tr>
<td>2 subtract</td>
</tr>
<tr>
<td>3 multiply</td>
</tr>
<tr>
<td>4 divide</td>
</tr>
<tr>
<td>5 None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>22. $-$ means</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 add</td>
</tr>
<tr>
<td>2 subtract</td>
</tr>
<tr>
<td>3 multiply</td>
</tr>
<tr>
<td>4 divide</td>
</tr>
<tr>
<td>5 None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>23. $\times$ means</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 add</td>
</tr>
<tr>
<td>2 subtract</td>
</tr>
<tr>
<td>3 multiply</td>
</tr>
<tr>
<td>4 divide</td>
</tr>
<tr>
<td>5 None</td>
</tr>
</tbody>
</table>

---

**STOP NOW WAIT FOR FURTHER INSTRUCTIONS**

Sec. B Score (number right).................................
DIRECTIONS: Work these problems. Then mark as you have been told the letter of each correct answer. For some of the problems none of the answers given may be correct. If you cannot work a problem, or if you think none of the answers given is correct, you should mark the letter, e. Remember to do your figuring on scratch paper if you are marking your answers on an answer sheet.

TEST 3 — SECTION C

31. Nan has 5 pieces of candy. Fred has 10 pieces of candy. How many pieces have they together?  
   a 5  
   b 15  
   c 50  
   d $7\frac{1}{2}$  
   e None  

32. A farmer had 14 cows. He sold four of them. How many cows did he have left?  
   a 18  
   b 4  
   c 9  
   d 56  
   e None  

33. Ann has 2 dolls. Sally has three times as many. How many dolls does Sally have?  
   a 6  
   b 8  
   c 3  
   d 4  
   e None  

34. Jane had 9 apples and she divided them equally among two other girls and herself. How many apples did each receive?  
   a 9  
   b 6  
   c 27  
   d 3  
   e None  

35. One dish contained 12 cookies and another contained eighteen. The children ate six of the cookies. How many were left?  
   a 0  
   b 24  
   c 30  
   d 12  
   e None  

36. A classroom had 6 rows of desks with 7 desks in each row. Five desks were moved from the room. How many desks were left?  
   a 37  
   b 13  
   c 42  
   d 8  
   e None  

37. Mr. Smith had 100 chickens and sold 40. He gave all the others to his four children, giving the same number to each. How many chickens did each child receive?  
   a 60  
   b 15  
   c 35  
   d 10  
   e None
38. Mary weighs 85 pounds, Ruth weighs 65 pounds, and Ethel weighs 90 pounds. What is their average weight in pounds?

- (a) 85
- (b) 82 1/2
- (c) 83 1/2
- (d) 80
- (e) None

39. How many square inches in a piece of glass 15 inches wide and 20 inches long?

- (a) 35
- (b) 200
- (c) 300
- (d) 150
- (e) None

40. How many one-inch squares can be placed in the bottom of a box 3 inches wide, 6 inches deep, and 10 inches long?

- (a) 19
- (b) 90
- (c) 60
- (d) 30
- (e) None

41. In a candy sale, four-fifths of a class brought bags of taffy to school. There were 45 pupils in the class. How many pupils brought taffy?

- (a) 36
- (b) 9
- (c) 20
- (d) 40
- (e) None

42. Mary paid $1.75 for a new book, 30 cents for lunch, and 20 cents for carfare. She spent the amount left out of $5.00 for a new dress. How much did the dress cost?

- (a) $2.25
- (b) $5.00
- (c) $2.75
- (d) $3.25
- (e) None

43. Our team has played 12 games and lost three of them. What per cent of the games did we lose?

- (a) 25
- (b) 33 1/3
- (c) 50
- (d) 1/4
- (e) None

44. The bank received seven per cent interest on a loan of $300.00 for one year. How much interest was received?

- (a) $7
- (b) $10
- (c) $21
- (d) 30
- (e) None

45. On a map 1/4 inch is used to represent 10 miles. The distance between two cities on the map is 2 inches. How many miles are they apart?

- (a) 20
- (b) 40
- (c) 60
- (d) 80
- (e) None
DIRECTIONS: Do these problems in addition. Then mark as you have been told the letter of each correct answer. For some of the problems none of the answers given may be correct. If you cannot work a problem, or if you think none of the answers given is correct, you should mark the letter, e. Finish each column before going on to the next. Be sure to reduce fractions to lowest terms. Remember to do your figuring on scratch paper if you are marking your answers on an answer sheet.

### TEST 4 — SECTION D

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>(46) 4 1 + 3 2</td>
<td>a 10 b 73 c 55 d 9 e None</td>
<td>(53) $3 4.2 4 \ + 8 6 5 \ + .5 5 \ + 4.2 6</td>
</tr>
<tr>
<td>(47) 4 0 + 2 6</td>
<td>a 120 b 12 c 66 d 660 e None</td>
<td>(54) $5.00 + $.60 + $12 + $2.40 =</td>
</tr>
<tr>
<td>(48) 4 0 9 + 5 2 0</td>
<td>a 929 b 20 c 90290 d 713 e None</td>
<td>(55) (\frac{1}{2}) + (\frac{1}{2})</td>
</tr>
<tr>
<td>(49) 5 7 + 6</td>
<td>a 51 b 342 c 513 d 63 e None</td>
<td>(56) (\frac{1}{3}) + (\frac{1}{6})</td>
</tr>
<tr>
<td>(50) 3 4 + 1 8</td>
<td>a 412 b 52 c 17 d 42 e None</td>
<td>(57) 2 4 + 3 (\frac{2}{3})</td>
</tr>
<tr>
<td>(51) 2 6 6 + 1 5 8</td>
<td>a 51313 b 653 c 633 d 543 e None</td>
<td>(58) (\frac{3}{4}) + 3 (\frac{1}{8})</td>
</tr>
<tr>
<td>(52) 2 3 1 7 + 6 8 9 4 5 1 3 4 + 6 0 2 0</td>
<td>a 19255 b 20355 c 19365 d 20365 e None</td>
<td>(59) 2 1 (\frac{1}{3}) + 4 (\frac{1}{4})</td>
</tr>
</tbody>
</table>

STOP NOW WAIT FOR FURTHER INSTRUCT...
DIRECTIONS: Do these problems in subtraction. Then... as you have been told the letter of each correct answer. For some of the problems none of the answers given may be correct. If you cannot work a problem, or if you think none of the answers given is correct, you should mark the letter, e. Finish each column before going on to the next. Be sure to reduce fractions to lowest terms.

TEST 4 — SECTION E

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(66)</td>
<td>(73)</td>
<td>(80)</td>
<td>(67)</td>
<td>(74)</td>
<td>(81)</td>
<td>(68)</td>
</tr>
<tr>
<td>46</td>
<td>$24.00</td>
<td>9</td>
<td>$32</td>
<td>45</td>
<td>$12.75</td>
<td>398</td>
</tr>
<tr>
<td>32</td>
<td>2.75</td>
<td>1/2</td>
<td>1</td>
<td>3</td>
<td>$56</td>
<td>3</td>
</tr>
<tr>
<td>a 78</td>
<td>b 22.35</td>
<td>b 23 1/3</td>
<td>b 32</td>
<td>b 2601</td>
<td>b $68.75</td>
<td>b $24.00</td>
</tr>
<tr>
<td>b 4</td>
<td>e 22 1/2</td>
<td>c 22 1/3</td>
<td>c 48</td>
<td>c 95</td>
<td>c $56.75</td>
<td>c $12.75</td>
</tr>
<tr>
<td>c 14</td>
<td>d 21.25</td>
<td>d 22 1/2</td>
<td>d 18</td>
<td>d 185</td>
<td>d $43.25</td>
<td>d $12.75</td>
</tr>
<tr>
<td>d 18</td>
<td>e None</td>
<td>e None</td>
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<td>e None</td>
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<tr>
<td>e None</td>
<td>e None</td>
<td>e None</td>
<td>e None</td>
<td>e None</td>
<td>e None</td>
<td>e None</td>
</tr>
</tbody>
</table>

| (69) | (75) | (82) | (70) | (76) | (83) | (71) | (77) | (84) | (72) |
| 470 | 1/4 | 75.460 | 45 | a 195 | 5/6 | 45.05 | 3 | a 2400 | 35 |
| 230 | 0 | 33.16 | 5 | b 601 | 3/5 | — 5.0379 | 18 | c 140 | 298 |
| a 2400 | b 44.3 | a 72.144 | b 237 | b 240 | b 44.8 1/2 | b 45.874 | b 69 | b 179 | a 189 |
| b 220 | c 75 | c 40.0231 | c 43.3 | c 63 | c 1/4 | c 54.126 | c 203 | c 33 | c 99 |
| c 33 | d 2 | c 40.0121 | d None | d 33 | d 1/4 | d None | d 1/2 | d None | d None |
| e None | e None | e None | e None | e None | e None | e None | e None | e None | e None |

| (73) | (78) | (85) |
| 5 1/4 | 8 ft. 5 in. | 14 ft. 3 in. |
| 5 | 5 ft. 10 in. | b 2 ft. 7 in. |
| 1/4 | c 3 ft. 7 in. | c 2 ft. 5 in. |
| 4 | d 2 ft. 5 in. | e None |
| 2 1/4 | e None | e None |
DIRECTIONS: Do these problems in multiplication. Then mark as you have been told the letter of each correct answer. Finish each column before going on to the next. Be sure to reduce fractions to lowest terms.

TEST 4 — SECTION F

<table>
<thead>
<tr>
<th>Problem</th>
<th>Option A</th>
<th>Option B</th>
<th>Option C</th>
<th>Option D</th>
<th>Option E</th>
</tr>
</thead>
<tbody>
<tr>
<td>(86) 432 X 2</td>
<td>a 434</td>
<td>b 430</td>
<td>c 864</td>
<td>d 664</td>
<td>e None</td>
</tr>
<tr>
<td>(87) 500 X 3</td>
<td>a 1500</td>
<td>b 15000</td>
<td>c 150000</td>
<td>d 80000</td>
<td>e None</td>
</tr>
<tr>
<td>(88) 42 X 4</td>
<td>a 168</td>
<td>b 46</td>
<td>c 166</td>
<td>d 38</td>
<td>e None</td>
</tr>
<tr>
<td>(89) 45 X 5</td>
<td>a 2025</td>
<td>b 50</td>
<td>c 225</td>
<td>d 40</td>
<td>e None</td>
</tr>
<tr>
<td>(90) 805 X 9</td>
<td>a 72045</td>
<td>b 7245</td>
<td>c 814</td>
<td>d 796</td>
<td>e None</td>
</tr>
<tr>
<td>(91) 687 X 45</td>
<td>a 30915</td>
<td>b 6183</td>
<td>c 732</td>
<td>d 30815</td>
<td>e None</td>
</tr>
<tr>
<td>(92) 489 X 40</td>
<td>a 529</td>
<td>b 19560</td>
<td>c 1956</td>
<td>d 18460</td>
<td>e None</td>
</tr>
<tr>
<td>(93) 5000 X 300</td>
<td>a 1500</td>
<td>b 15000</td>
<td>c 150000</td>
<td>d 80000</td>
<td>e None</td>
</tr>
<tr>
<td>(94) 3045 X 504</td>
<td>a 1534680</td>
<td>b 164430</td>
<td>c 15237180</td>
<td>d 3549</td>
<td>e None</td>
</tr>
<tr>
<td>(95) 4 X 1/2</td>
<td>a 2 1/2</td>
<td>b 2</td>
<td>c 1/2</td>
<td>d 1</td>
<td>e None</td>
</tr>
<tr>
<td>(96) 1/4 X 1/4</td>
<td>a 1/2</td>
<td>b 1/4</td>
<td>c 1/4</td>
<td>d 1</td>
<td>e None</td>
</tr>
<tr>
<td>(97) 1/3 X 3/4</td>
<td>a 1/2</td>
<td>b 3/4</td>
<td>c 1/4</td>
<td>d 1</td>
<td>e None</td>
</tr>
<tr>
<td>(98) 3/5 X 5/6</td>
<td>a 3/10</td>
<td>b 1/3</td>
<td>c 1/5</td>
<td>d 1/2</td>
<td>e None</td>
</tr>
<tr>
<td>(99) 6 X 2 1/4</td>
<td>a 12 1/4</td>
<td>b 54</td>
<td>c 3/4</td>
<td>d 13 1/2</td>
<td>e None</td>
</tr>
<tr>
<td>(100) 7 3/4 X 3/4</td>
<td>a 1 3/16</td>
<td>b 4 1/2</td>
<td>c 7/20</td>
<td>d 4 1/20</td>
<td>e None</td>
</tr>
<tr>
<td>(101) 5 1/2 X 7 3/5</td>
<td>a 3 5/16</td>
<td>b 4 1/2</td>
<td>c 35 1/2</td>
<td>d 1/15</td>
<td>e None</td>
</tr>
<tr>
<td>(102) 4 5/4 X 2 5/</td>
<td>a 1145</td>
<td>b 70</td>
<td>c 1125</td>
<td>d 1156</td>
<td>e None</td>
</tr>
<tr>
<td>(103) 3 8 4.6 X 5</td>
<td>a 19320</td>
<td>b 385</td>
<td>c 384</td>
<td>d 1923</td>
<td>e None</td>
</tr>
<tr>
<td>(104) 5 4.38 X 0.025</td>
<td>a .038066</td>
<td>b .13595</td>
<td>c 135.95</td>
<td>d 135.95</td>
<td>e None</td>
</tr>
<tr>
<td>(105) 5 ft. 6 in. X 3</td>
<td>a 16 ft. 6 in.</td>
<td>b 5 ft. 9 in.</td>
<td>c 15 ft. 18 in.</td>
<td>d 6 ft. 6 in.</td>
<td>e None</td>
</tr>
</tbody>
</table>
**DIRECTIONS:** Do these problems in division. Then mark as you have been told the letter of each correct answer. Finish each column before going on to the next. Be sure to express remainders as fractions and reduce fractions to lowest terms.

### TEST 4 — SECTION G

<table>
<thead>
<tr>
<th>Column</th>
<th>Problem</th>
<th>Options</th>
<th>Correct Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>(106)</td>
<td>8(\overline{)16})</td>
<td>a 15, b 2, c 3, d 20, e None</td>
<td>a 15, (106)</td>
</tr>
<tr>
<td>(113)</td>
<td>36(\overline{)7344})</td>
<td>a 24, b 204, c 240, d 199, e None</td>
<td>a 24, (113)</td>
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<tr>
<td>(120)</td>
<td>(% \div \frac{1}{3} =)</td>
<td>a (%%%), b (%%%), c (%%%)</td>
<td>a (%%%), (120)</td>
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<tr>
<td>(107)</td>
<td>9(\overline{)45})</td>
<td>a 5, b 4, c 6, d 9, e None</td>
<td>a 5, (107)</td>
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<tr>
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<tr>
<td>(121)</td>
<td>(4 \frac{1}{8} \div \frac{3}{4})</td>
<td>= a (%%%), b (%%%), c (%%%)</td>
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<tr>
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<td>a 8, b 60, c 80, d 6, e None</td>
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<td>(115)</td>
<td>54(\overline{)4892})</td>
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<tr>
<td>(122)</td>
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<tr>
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<td>(123)</td>
<td>3(\overline{)92\frac{3}{4}})</td>
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<td>(110)</td>
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<tr>
<td>(117)</td>
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<td>a 12, (117)</td>
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<tr>
<td>(124)</td>
<td>4(\overline{)5.04})</td>
<td>a 1260, b 1.26, c 1.26, d .126, e None</td>
<td>a 1260, (124)</td>
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<tr>
<td>(111)</td>
<td>5(\overline{)525})</td>
<td>a 15, b 1005, c 105, d 101, e None</td>
<td>a 15, (111)</td>
</tr>
<tr>
<td>(118)</td>
<td>(7 \div \frac{3}{4})</td>
<td>a (%%), b (%%), c (%%)</td>
<td>a (%%), (118)</td>
</tr>
<tr>
<td>(125)</td>
<td>.04(\overline{)504})</td>
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<td>(112)</td>
<td>30(\overline{)360})</td>
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<td>a 12, (112)</td>
</tr>
<tr>
<td>(119)</td>
<td>(\frac{1}{6} \div \frac{1}{6})</td>
<td>a (%%), b (%%), c (%%)</td>
<td>a (%%), (119)</td>
</tr>
</tbody>
</table>

**STOP**

Now wait for further instructions.

Sec. G Score (number right)..............................

---

Page 10

CEA-BB
INSTRUCTIONS TO STUDENTS:

This is a language test. In taking it you will show what you know about capitalization, punctuation, and words and sentences, and how well you can spell and write. No one can do the whole test correctly, but you should answer as many items as you can. Work as fast as you can without making mistakes.

DO NOT WRITE OR MARK ON THIS TEST BOOKLET UNLESS TOLD TO DO SO BY THE EXAMINER.
DIRECTIONS: In the sentences below the line, some of the letters with numbers above them should be capitals. Mark the number of each letter that should be a capital. Some lines may have more than one letter that should be a capital; others may have no such letter.

SAMPLE: A. His name is sam and he is my friend. 3 A

In Sample A the number 3 letter, s, in sam, should be a capital. Notice how the 3 has been marked.

TEST 5 — SECTION A

1. spring is here. 1
2. does snow fall in winter? 2
3. moss, ferns, and trees 3
4. grow in brazil. 4
5. The baby likes bill, mary, 5
6. and the dog. 6
7. The abbreviation for september 7
8. is always sept. 8
9. Last Friday a friend, Miss smith, 9
10. sailed for europe. 10
11. Many people travel through the 11
12. Andes mountains during vacations. 12
13. Father said, "you may go, too." 13
14. Last tuesday i visited my 14
15. uncle John in the city. 15

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Sec. A Score (number right)..........................
DIRECTIONS: In the story, row the line, numbers 16, 17, 18, etc., indicate places where punctuation may or may not be needed. In the answer row which has the number used in the story, make a black mark within the pair of dotted lines under the punctuation needed. If none is needed, mark N. Use the same answer row to show all punctuation needed at any one number in the story.

SAMPLE: B. Yes, I shall go to your party.

A comma is needed at 1 after the word, yes, in Sample B, so a mark has been made under the comma in answer row 1. A mark under N in answer row 2 shows that punctuation is not needed at 2 in the sample. A mark under the period in answer row 3 shows the punctuation needed at 3 in the sample.

TEST 5 — SECTION B

Jack wanted a dog to play

with Therefore he told his

father about it.

Jack said, Father will you

buy a dog for me to play

with"

His father said, "If I buy you

a dog to play with what

will you name him

In reply Jack said that he'd

name him Spot.
1. Mother (may can) I go out? — 31
2. (Lemme Let me) have the ball. — 32
3. Where (was were) you last night? — 33
4. The book was (taken took) from the shelf. — 34
5. The teacher will (learn teach) us. — 35
6. We (sung sang) the song. — 36
7. She (ate et) her spinach. — 37
8. He (don't doesn't) ride his bicycle. — 38
9. Mother bought the candy for (us we) girls. — 39
10. I (knewed knew) the candy was hard. — 40

For each statement given below that is a complete sentence, mark YES; for each that is not, mark NO.

41. The boy went to the playground. — YES NO 41
42. When he returns. — YES NO 42
43. She likes to read. — YES NO 43
44. Are they coming? — YES NO 44
45. The man of whom you were speaking. — YES NO 45
46. The speech was given in the lecture room. — YES NO 46
47. Near the source of the river and by the waterfall. — YES NO 47
48. Month by month he continued to advance. — YES NO 48
49. In order to provide the necessities of life. — YES NO 49
50. Calling to his dog and running at top speed after his friends. — YES NO 50

STOP NOW WAIT FOR FURTHER INSTRUCTIONS
Sec. C Score (number right)..........................
DIRECTIONS: Each of this test contains four spelling words and the word, None. These words are numbered 1, 2, 3, 4, and the None is numbered 5. In some of the lines, one word is misspelled. In others, no word is misspelled. If there is a misspelled word, mark its number. If no word is misspelled, mark the 5.

Correct Test Booklet Mark

<table>
<thead>
<tr>
<th>Correct Answer Sheet Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

SAMPLE: C. 1 now 2 just 3 come 4 ron 5 None

SAMPLE: D. 1 go 2 see 3 do 4 may 5 None

TEST 6

<table>
<thead>
<tr>
<th>51. 1 could</th>
<th>2 warme</th>
<th>3 inside</th>
<th>4 mile</th>
<th>5 None</th>
</tr>
</thead>
<tbody>
<tr>
<td>52. 1 sure</td>
<td>2 yellow</td>
<td>3 quick</td>
<td>4 pick</td>
<td>5 None</td>
</tr>
<tr>
<td>53. 1 gess</td>
<td>2 scare</td>
<td>3 pocket</td>
<td>4 trade</td>
<td>5 None</td>
</tr>
<tr>
<td>54. 1 north</td>
<td>2 broak</td>
<td>3 easy</td>
<td>4 because</td>
<td>5 None</td>
</tr>
<tr>
<td>55. 1 teeth</td>
<td>2 push</td>
<td>3 party</td>
<td>4 weare</td>
<td>5 None</td>
</tr>
<tr>
<td>56. 1 coast</td>
<td>2 blind</td>
<td>3 twomorrow</td>
<td>4 alive</td>
<td>5 None</td>
</tr>
<tr>
<td>57. 1 dash</td>
<td>2 bridege</td>
<td>3 front</td>
<td>4 pasture</td>
<td>5 None</td>
</tr>
<tr>
<td>58. 1 twice</td>
<td>2 knee</td>
<td>3 drank</td>
<td>4 allmost</td>
<td>5 None</td>
</tr>
<tr>
<td>59. 1 lady</td>
<td>2 drum</td>
<td>3 asleep</td>
<td>4 teacher</td>
<td>5 None</td>
</tr>
<tr>
<td>60. 1 ofen</td>
<td>2 wheel</td>
<td>3 shake</td>
<td>4 open</td>
<td>5 None</td>
</tr>
<tr>
<td>61. 1 toad</td>
<td>2 expeckt</td>
<td>3 ribbon</td>
<td>4 quite</td>
<td>5 None</td>
</tr>
<tr>
<td>62. 1 squirrel</td>
<td>2 parade</td>
<td>3 rattle</td>
<td>4 weigt</td>
<td>5 None</td>
</tr>
<tr>
<td>63. 1 form</td>
<td>2 bud</td>
<td>3 adress</td>
<td>4 base</td>
<td>5 None</td>
</tr>
<tr>
<td>64. 1 ditch</td>
<td>2 lisened</td>
<td>3 fever</td>
<td>4 leaving</td>
<td>5 None</td>
</tr>
<tr>
<td>65. 1 mice</td>
<td>2 year</td>
<td>3 befor</td>
<td>4 slow</td>
<td>5 None</td>
</tr>
<tr>
<td>66. 1 subect</td>
<td>2 reduce</td>
<td>3 worry</td>
<td>4 oyster</td>
<td>5 None</td>
</tr>
<tr>
<td>67. 1 thimble</td>
<td>2 opposite</td>
<td>3 machine</td>
<td>4 visiter</td>
<td>5 None</td>
</tr>
<tr>
<td>68. 1 apron</td>
<td>2 cork</td>
<td>3 usal</td>
<td>4 extra</td>
<td>5 None</td>
</tr>
<tr>
<td>69. 1 fingerprint</td>
<td>2 promice</td>
<td>3 dangerous</td>
<td>4 whenever</td>
<td>5 None</td>
</tr>
<tr>
<td>70. 1 pudding</td>
<td>2 lonesome</td>
<td>3 noisy</td>
<td>4 streight</td>
<td>5 None</td>
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<tr>
<td>71. 1 patient</td>
<td>2 victory</td>
<td>3 famus</td>
<td>4 invention</td>
<td>5 None</td>
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<td>72. 1 secund</td>
<td>2 cracker</td>
<td>3 jelly</td>
<td>4 flies</td>
<td>5 None</td>
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<td>73. 1 ninth</td>
<td>2 profit</td>
<td>3 suess</td>
<td>4 future</td>
<td>5 None</td>
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<td>74. 1 conversation</td>
<td>2 asist</td>
<td>3 female</td>
<td>4 obedient</td>
<td>5 None</td>
</tr>
<tr>
<td>75. 1 level</td>
<td>2 dentist</td>
<td>3 rejon</td>
<td>4 worst</td>
<td>5 None</td>
</tr>
<tr>
<td>76. 1 gotten</td>
<td>2 arive</td>
<td>3 pavement</td>
<td>4 conduct</td>
<td>5 None</td>
</tr>
<tr>
<td>77. 1 reward</td>
<td>2 bonnet</td>
<td>3 hatchet</td>
<td>4 sissors</td>
<td>5 None</td>
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<tr>
<td>78. 1 particuler</td>
<td>2 orchard</td>
<td>3 frighten</td>
<td>4 ceiling</td>
<td>5 None</td>
</tr>
<tr>
<td>79. 1 dramas</td>
<td>2 resemblance</td>
<td>3 varieties</td>
<td>4 benefited</td>
<td>5 None</td>
</tr>
<tr>
<td>80. 1 importance</td>
<td>2 disturb</td>
<td>3 caution</td>
<td>4 probaly</td>
<td>5 None</td>
</tr>
</tbody>
</table>
LEARNING DIFFICULTIES

DIAGNOSTIC ANALYSIS OF LEARNING DIFFICULTIES

1. Reading Vocabulary

A. WORD FORM:
- 1-15 - Lower case words
- 16, 17 - Capitals
- 18, 19, 20 - Misc. type faces
- 21-25 - Initial sounds

B. WORD RECOGNITION:
- 26, 29-31 - Gross differences
- 27-28, 30 - Initial sounds
- 32-45 - or endings

C. OPPOSITES:
- 46-68 - Basic vocabulary

D. SIMILARITIES:
- 69-90 - Basic vocabulary

2. Reading Comprehension

E. FOLLOWING SPECIFIC DIRECTIONS:
- 91, 95 - Simple directions
- 92, 93, 94, 96 - Directions, simple choice
- 97, 98 - Defin. and direct.

F. REFERENCE SKILLS:
- 101, 102 - Parts of book
- 103, 104 - Alphabetizing
- 105-106 - Table of contents
- 107 - Use of index

G. INTERPRETATION OF MEANINGS:
- 111, 117 - Topic or central idea
- 112, 113 - Directly stated facts
- 114, 115 - Making inferences
- 116-120 - Organ. of topics
- 121 - Sequence of events

3. Arithmetic Reasoning

A. NUMBER CONCEPT:
- 1, 2, 3 - Writing numbers
- 4, 5, 6, 7 - Writing money
- 8, 9, 10, 11 - Roman numbers
- 12, 13 - Fraction, dec., per cent.

B. SIGNS AND SYMBOLS:
- 16, 17, 18 - One-step
- 19, 20, 21 - Two-step
- 22, 23, 24 - Sharing and averaging
- 25, 26 - Abbreviations

C. PROBLEMS:
- 31, 32 - One-step
- 33, 34 - Two-step
- 35, 36, 37 - Sharing and averaging
- 38, 39 - Sq. and cubic measure
- 40 - Fraction
- 41, 42 - Percentage
- 43, 44 - Ratio

4. Arithmetic Fundamentals

D. ADDITION:
- 46, 47, 48 - Simple combinations
- 47, 48 - Zeros
- 49, 50, 51 - Higher decades
- 52, 53 - Column addition
- 53, 54 - Adding money
- 55 - Adding numerators
- 56, 57, 58, 59, 60, 61 - Common denominators
- 62 - Fractions and decimals
- 63, 64 - Writing decimals
- 65 - Denominator numbers

E. SUBTRACTION:
- 66, 67 - Simple combinations
- 68, 69 - Zeros
- 70, 71 - Subtracting money
- 72 - Subtracting numerators
- 73, 74 - Common denominators
- 75, 76 - Mixed numbers
- 77, 78 - Fractions from decimals

5. Mechanics of English, and Grammar

A. CAPITALIZATION:
- 1, 2, 3 - First word of sentence
- 5, 9 - Names of persons
- 4, 10, 12 - Names of places
- 7, 14 - Day or month
- 8 - Abbreviation for month
- 13 - First word of quotation
- 14 - Pronoun "I"
- 15 - Title of person
- 16 - Over-capitalization

B. PUNCTUATION:
- 17 - Periods
- 18, 21, 24 - Commas
- 20, 28 - Quotation marks
- 23, 28 - Question marks
- 29 - Over-punctuation

C. WORDS AND SENTENCES:
- 31, 32 - Good usage
- 33, 34 - Case
- 35 - Tense
- 36 - Number
- 39 - Recognizing sentences

6. Spelling: (51-80) See profile

HANDWRITING: See profile
<table>
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<td>865</td>
<td>870</td>
<td>875</td>
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</tbody>
</table>

**DIAGNOSTIC PROFILE**
INSTRUCTIONS TO STUDENTS:

This is a reading test. In taking it you will show how many words you know and how well you understand what you read. No one can do the whole test correctly, but you should answer as many items as you can. Work as fast as you can without making mistakes.

DO NOT WRITE OR MARK ON THIS TEST BOOKLET UNLESS TOLD TO DO SO BY THE EXAMINER.
DIRECTIONS: Mark as you are told the number of the word that means the opposite or about the opposite of the first word.

SAMPLE: B. large 1 rich 2 small 3 gone 4 away

<table>
<thead>
<tr>
<th>Test Booklet Mark</th>
<th>Correct Answer Sheet Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>69. voice</td>
<td>1 speechless 2 present</td>
</tr>
<tr>
<td>70. complete</td>
<td>1 unity 2 initial</td>
</tr>
<tr>
<td>71. past</td>
<td>1 revelation 2 future</td>
</tr>
<tr>
<td>72. question</td>
<td>1 wallet 2 infest</td>
</tr>
<tr>
<td>73. loose</td>
<td>1 tied 2 absent</td>
</tr>
<tr>
<td>74. wit</td>
<td>1 effect 2 origin</td>
</tr>
<tr>
<td>75. sacrifice</td>
<td>1 decline 2 negative</td>
</tr>
<tr>
<td>76. original</td>
<td>1 silent 2 duplicate</td>
</tr>
<tr>
<td>77. poem</td>
<td>1 fidelity 2 prose</td>
</tr>
<tr>
<td>78. liberal</td>
<td>1 pleasant 2 free</td>
</tr>
<tr>
<td>79. masculine</td>
<td>1 feminine 2 peasant</td>
</tr>
<tr>
<td>80. shrewd</td>
<td>1 simple 2 passive</td>
</tr>
<tr>
<td>81. fail</td>
<td>1 proceed 2 succeed</td>
</tr>
<tr>
<td>82. tranquil</td>
<td>1 Christian 2 serene</td>
</tr>
<tr>
<td>83. transient</td>
<td>1 formal 2 declension</td>
</tr>
<tr>
<td>84. ponderous</td>
<td>1 subtle 2 slow</td>
</tr>
<tr>
<td>85. disciple</td>
<td>1 revelation 2 novice</td>
</tr>
<tr>
<td>86. sanction</td>
<td>1 allow 2 restrain</td>
</tr>
<tr>
<td>87. melodious</td>
<td>1 discreet 2 clever</td>
</tr>
<tr>
<td>88. predecessor</td>
<td>1 gobbler 2 leader</td>
</tr>
<tr>
<td>89. grotesque</td>
<td>1 seldom 2 story</td>
</tr>
<tr>
<td>90. superficial</td>
<td>1 rough 2 shallow</td>
</tr>
</tbody>
</table>
**DIRECTIONS:** Read the following directions. Mark as you are told the number or letter of each correct answer.

**TEST 2 — SECTION E**

91. Read the following names:
Mary Robert Charles Louise
Mark the number which shows the first letters of the girls’ names.
1 MR  2 CL  3 ML  4 RC

92. Read these numbers:
6 7 5 2 5 9 6 3 9 5
Mark the letter of the third number after 2.
1 5  2 6  3 7  4 9

93. The area of a rectangle is found by multiplying the base by the altitude. Mark the letter of the number of square feet in a rectangle which has a base of 8 feet and an altitude of 4 feet.
1 32  2 24  3 48  4 36

94. Longitude is the distance east or west of the prime meridian on the earth’s surface. Mark the letter of the following ship’s reading which indicates longitude.
1 South 10° 19’ 30”
2 West 2° 48’ 10”
3 North 3° 47’ 25”

95. American is the proper adjective derived from the proper noun, America. Mark the number of the word which is the proper adjective of the proper noun, Australia.
1 Australia’s  2 Australia  3 Australian

96. Regular adverbs are formed by adding ly to the adjectives, such as beautiful, beautifully. Mark the number of the word which is the adverb formed from the adjective, great.
1 greatly  2 greatest  3 greater

97. The plural of a noun ending in y preceded by a vowel is formed by retaining the y and adding s; as valley, valleys. Mark the number of the word which indicates correctly the plural of the noun, joy.
1 joies  2 joys  3 joyes

98. A silent e, when final, is usually retained before a suffix beginning with a consonant; as dire, direful. Mark the number of the word which has the suffix ful correctly added to the word, use.
1 useful  2 usefull  3 usful

99. Read the following recipe:
2 1/2 cups sugar
2 squares chocolate
1 tablespoon butter
1 cup milk
1 teaspoon vanilla
Take the sugar and add grated chocolate; add milk and butter and boil slowly until the candy forms a soft ball in water. Take off the fire, add the vanilla and beat until creamy and then pour the mixture into a buttered pan. Mark the number of the item which is the third thing to be used in mixing the above recipe.
1 chocolate  2 milk  3 sugar  4 butter

100. The length of the diagonal line in a rectangle is found by adding the square of the base to the square of the altitude and then extracting the square root of this sum. Mark the letter which indicates the length in inches of the diagonal of a rectangle whose base is 3 inches and whose altitude is 4 inches. (Three squared is 9, 4 squared is 16, and 5 is the square root of 25.)
1 a  2 b  3 c  4 d

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Sec. E Score (number right) ........................................
TEST 2 — SECTION F

101. The title is found in what part of a book?
   1 beginning  2 middle  3 end — 101

102. The appendix is found in what part of a book?
   1 beginning  2 middle  3 end — 102

103. A glossary contains:
   1 index  2 definitions  3 pictures — 103

104. The bibliography is found in what part of a book or chapter?
   1 beginning  2 middle  3 end — 104

105. A preface is found in what part of a book?
   1 beginning  2 middle  3 end — 105

Look at this partial index and find the answers to items 108, 109, and 110.

INDEX

Bananas: In Africa, 345; in Central America, 231; in China, 399; in Colombia, 252; importance of, as food, 231; in Mexico, 228; in the Philippines, 208; in the West Indies, 234.

Bangkok, the “Venice of Asia,” 392, 393.

Barcelona, 336.

Barge Canal, as trade and travel route, 112.

Barley: In Afghanistan, 384; in Africa, 359; in Alaska, 204; in Arabia, 379; in Bulgaria, 332; in Chile, 264; in Czechoslovakia, 317; in Denmark, 307; in Finland, 296; in New Zealand, 417; in Norway, 292; in Poland, 316; in Sweden, 294.

Barranquilla, 252.

106. Mark the letter of the page on which “The Cotton Fields” begins.
   a 1  b 22  c 76  d 13 — 106

107. Mark the number of the chapter to which the materials on page 83 belong.
   1 Classification of Crops
   2 Cotton Growing
   3 Modern Spinning and Weaving — 107

108. Mark the letter of the page on which information concerning Barcelona will be found.
   a 112  b 234  c 336  d 379 — 108

109. Mark the letter of the page on which information concerning bananas in Mexico will be found.
   a 204  b 252  c 228  d 316 — 109

110. Mark the letter of the page on which information concerning barley in Denmark will be found.
   a 336  b 417  c 345  d 307 — 110

Table of Contents

Chapter   Page
1. History of the Cotton Plant       1
2. The Development of Spinning       13
3. The Cotton Fields                 22
4. Triumph of Mechanical Invention   35
5. Cotton Growing                    44
6. Classification of Crops           76
7. Modern Spinning and Weaving       85
TEST 2 — SECTION G

Read this story:

In early American times, forests were the principal source of material for shelter. Trees were available in abundance and provided lumber for houses and a means of constructing refuges from the savages.

Since it was necessary to build homes and clear the land of trees, lumbering was the first industry in America. The first sawmills were located at Jamestown, Virginia, and Berwick, Maine in 1625 and 1631, respectively. These early mills were operated by water-power and produced only a few hundred board feet of lumber a day.

With further development of the country, there were increasing demands for lumber. New and efficient machinery and improved methods developed with astonishing rapidity. As the forests were cleared away it became impossible for the lumbermen to live at home, and this resulted in the development of the lumber camp, which in its early stages was a crude and unwholesome place.

Following this there occurred a more satisfactory development of the industry. The lumber camp was replaced by the lumber town, which is more modern and up-to-date. Methods of reforestation and scientific planting of trees have been introduced and have brought non-productive land back into use. Modern building programs require much less lumber than formerly, because of the use of steel and cement, and the future of the lumber industry is, therefore, somewhat uncertain.
TEST 2 — SECTION G (Continued)

Mark as you have been told the number of each correct answer. You may look back to find the answers.

116. The best title for the story is
   1 Lumber  2 Shelter  3 Forests

117. As an early American industry, lumbering was
   1 third  2 second  3 first

118. In 1625, the first sawmill was located in
   1 Berwick  2 Jamestown  3 Maine

119. Each day these early mills produced the following number of board feet
   1 about fifty  2 several hundred  3 several thousand

120. Non-productive land has been utilized by
   1 burning  2 standing idle  3 reforestation

121. Forests, due to scientific management, have been
   1 decreased  2 arrested  3 preserved

122. Production of lumber has decreased because of the use of
   1 apartments  2 steel  3 automobiles

Page 8

Go right on to the next story:

Read this story:

The orange is a small evergreen tree with dark green oval leaves, white fragrant flowers, and golden-yellow, pleasantly flavored fruit. The flowers and fruit in all stages of development are often found on the same tree at the same time.

The orange is a native of Southern China where it was under cultivation during the Middle Ages. About 1500 A.D., orange culture spread rapidly throughout warm regions. It is now the most important citrus fruit and is very extensively grown in the Mediterranean countries, India, Japan, the East Indies, Jamaica, and Brazil. In the United States, California and Florida are the leading producers, although some oranges are grown in Louisiana, Alabama, Texas, and Arizona. In a single year, records show that the number of boxes of oranges produced in the United States was as follows:

<table>
<thead>
<tr>
<th>States</th>
<th>Number of Boxes</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florida</td>
<td>59,000,000</td>
<td>56.8</td>
</tr>
<tr>
<td>California</td>
<td>36,000,000</td>
<td>34.7</td>
</tr>
<tr>
<td>Texas</td>
<td>3,500,000</td>
<td>3.4</td>
</tr>
<tr>
<td>Arizona</td>
<td>670,000</td>
<td>.6</td>
</tr>
<tr>
<td>Louisiana</td>
<td>300,000</td>
<td>.3</td>
</tr>
<tr>
<td>Others</td>
<td>4,400,000</td>
<td>4.2</td>
</tr>
<tr>
<td>Total</td>
<td>103,870,000</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Oranges are a delicious dessert fruit and provide a refreshing drink. Orange peel is used in making marmalade, in flavoring, and as a candied confection. Bridal wreaths are frequently made from the blossoms. Orange-flower water and orange-leaf oil are ingredients in perfumes, and the fine-grained yellow wood of the tree is valuable for turnery and inlaid work.

Mark the number of each correct answer. You may look back to find the answers.

123. The best title for this story is
   1 Trees  2 The Value of Oranges  3 Oranges

124. The orange originated in
   1 India  2 China  3 California
TEST 2—SECTION G (Continued)

125. The most important citrus fruit now grown is the
1 grapefruit 2 lemon 3 orange

126. The state growing the largest number of oranges in a single year was
1 California 2 Florida 3 Texas

127. About 35 per cent of the oranges were produced in
1 California 2 Florida 3 Arizona

128. The growth of oranges is most successful in
1 moderate climates 2 frigid climates 3 warm climates

129. One of the by-products of oranges is used in making
1 paper 2 perfume 3 cloth

English. With the further development of steamships, however, this type of vessel was also hopelessly outclassed.

By the beginning of the twentieth century, the steamship had reached a remarkable stage of development. In the succeeding thirty years, ships increased in size as well as in luxury. The Mauretania, launched in 1908, was considered a marvel because it weighed nearly 30,700 tons. It held the trans-Atlantic speed record of five and one-half days for twenty years. Each year, however, brought changes in ships, with increased weight and speed, until the Bremen was built and crossed the Atlantic in nine hours less time than the previous record holder. Later the Queen Mary and the Normandie exceeded that record by about 24 hours.

✓ Mark the number of each correct answer. You may look back to find the answers.

130. The best title for the above story is
1 Pilgrims 2 Mayflower 3 Ships

131. In the 19th century the Americans built the
1 Clipper Ship 2 Mayflower 3 Bremen

132. American shipping was stimulated through competition with
1 Italy 2 England 3 Japan

133. The “Clipper Ship” was able to compete successfully because it was
1 a steamship 2 a passenger ship 3 easier to handle

134. The Bremen crossed the Atlantic in about
1 7 days 2 6 days 3 5 days

135. The word, succeeding, in the third paragraph means
1 following 2 successful 3 resulting
Radio

In 1894, Guglielmo Marconi began a series of experiments with wireless radio. He was only twenty years old, but he struggled along courageously day after day trying to learn more about wireless.

Marconi took his apparatus to England in 1896 to demonstrate what could be done with wireless. At Salisbury Plain a message was sent and received across a span of two miles. By the end of 1897, he had flashed waves from land to a ship ten miles out at sea and then between two shore stations, Salisbury and Bath, twenty-four miles apart. In 1899, the French Government asked him to try sending a message across the English Channel. This attempt succeeded and the future of the wireless seemed assured.

As radio men look back and compare Marconi's first instrument with those in use today, the crossing of the sea by radio seems a miracle. The apparatus Marconi had was very crude compared to modern equipment. All he had for transmitting was the means of making crude damped-spark waves which did not permit the accurate and sharp-tuning methods which are in vogue today. Among the important developments were crystal sets which have been largely superseded by vacuum tubes and other modern inventions, including a means of making continuous waves which have made possible our remarkable radio programs.

The development of the radio has brought the world closer together by providing a method whereby sounds and messages can be transmitted rapidly. Through radio broadcasts, continuous entertainment is brought into our homes. The development of short wave sets has also made possible rapid advances in commerce, industry, and crime prevention.

Mark the number of each correct answer. You may look back to find the answers.

136. The word, superseded, in the third paragraph means
1 vibrated 2 replaced 3 unusual

137. The word, vogue, in the third paragraph means
1 in use 2 electric current 3 unusual

The following things are mentioned in the story:

Vacuum tubes
Damped-spark waves
Radio broadcasts
Crystal sets

The order in which the above things were mentioned in the story is as follows:

142. Vacuum tubes were
1st 2nd 3rd 4th

143. Damped-spark waves were
1st 2nd 3rd 4th

144. Radio broadcasts were
1st 2nd 3rd 4th

145. Crystal sets were
1st 2nd 3rd 4th
Arithmetic

INSTRUCTIONS TO STUDENTS:

This is an arithmetic test. In taking it you will show how well you can think and work problems. No one is expected to do the whole test correctly, but you should answer as many items as you can. Work as fast as you can without making mistakes.

DO NOT WRITE OR MARK ON THIS TEST BOOKLET UNLESS TOLD TO DO SO BY THE EXAMINER.
DIRECTIONS: Decide how each of the amounts below should be written as a number. Then mark as you are told the letter of each correct answer. For some of the problems none of the answers given may be correct. If you cannot work a problem, or if you think that none of the answers given is correct, mark the letter, e. In doing this test you should finish the first column before doing the second. Look at the samples to the right and see how they are marked.

### TEST 3 — SECTION A

1. Seven hundred twenty-five
   - a 70,025
   - b 7025
   - c 725
   - d 257
   - e None

2. Four thousand ten
   - a 40,100
   - b 4010
   - c 400010
   - d 40,010
   - e None

3. Seventy thousand eighty-two
   - a 70,082
   - b 78,200
   - c 70,082
   - d 782,000
   - e None

4. Two million twenty thousand twelve
   - a 220,000,12
   - b 20,000,002,012
   - c 2,020,012
   - d 2,020,120
   - e None

5. Three-eighths
   - a \( \frac{3}{8} \)
   - b \( \frac{3}{4} \)
   - c \( \frac{2}{3} \)
   - d 3.8
   - e None

6. Eighty-nine dollars and eight cents
   - a 89.80
   - b $89.8
   - c $89.08
   - d $89.8
   - e None

7. Seventy-five per cent
   - a 7\( \frac{1}{2} \)
   - b 75\%
   - c 75\%
   - d 75
   - e None

### Samples

- Sample A: Twelve
  - Correct Answer
    - a 10
    - b 12
    - c 11
    - d 2
    - e None

- Sample B: Twenty
  - Correct Answer
    - a 22
    - b 200
    - c 2
    - d 21
    - e None

### Roman Numerals

- 8. LXXX means
  - a 30
  - b 40
  - c 80
  - d 100
  - e None

- 9. DCC means
  - a 100
  - b 300
  - c 500
  - d 700
  - e None

- 10. M means
  - a 500
  - b 1000
  - c 3000
  - d 7000
  - e None

### Find the Largest Number

- 11. a 25  b 250  c 145  d 50
- 12. a 75\(\frac{1}{2}\)  b 54\(\frac{1}{2}\)  c 102\(\frac{1}{2}\)  d 45\(\frac{1}{2}\)
- 13. a .033  b .065  c .35  d .012
- 14. a \(\frac{3}{4}\)  b \(\frac{1}{2}\)  c \(\frac{1}{3}\)  d \(\frac{1}{4}\)
- 15. a \(\%\)  b (\%)^2  c (\%)^4  d (\%)^3

STOP
NOW WAIT FOR FURTHER INSTRUCTIONS

Sec. A Score (number right).............................
**DIRECTIONS:** Mark the letter or number of each correct answer. If you do not know an answer, or you think that none of the answers given is correct, you should mark the letter, e (items 16-20), or the number, 5 (items 21-25). Finish the first column before doing the second. Remember to do your figuring on scratch paper if you are marking your answers on an answer sheet.

### TEST 3 — SECTION B

<table>
<thead>
<tr>
<th>Item</th>
<th>Question</th>
<th>Options</th>
<th>Rule</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.</td>
<td>$\sqrt{81}$ is</td>
<td>a 40 1/2, b 9, c 6561, d 1, e None</td>
<td>1 multiply, 2 degree, 3 per cent, 4 divide, 5 None</td>
<td>(16)</td>
</tr>
<tr>
<td>17.</td>
<td>10% of 70 =</td>
<td>a 700, b 490, c 7, d 1 1/2, e None</td>
<td>1 per cent, 2 subtract, 3 dram, 4 dollar, 5 None</td>
<td>(17)</td>
</tr>
<tr>
<td>18.</td>
<td>A right angle equals how many degrees?</td>
<td>a 90, b 180, c 45, d 360, e None</td>
<td>1 add, 2 square root, 3 interest, 4 ounce, 5 None</td>
<td>(18)</td>
</tr>
<tr>
<td>19.</td>
<td>Which two numbers are both factors of 21?</td>
<td>a 20, 1, b 3, 7, c 10, 11, d 15, 6, e None</td>
<td>1 square, 2 octagon, 3 pyramid, 4 parallelogram, 5 None</td>
<td>(19)</td>
</tr>
<tr>
<td>20.</td>
<td>What is the greatest common divisor of 8, 16, and 24?</td>
<td>a 3, b 2, c 4, d 8, e None</td>
<td>1 diameter, 2 pyramid, 3 rectangle, 4 rheostat, 5 None</td>
<td>(20)</td>
</tr>
</tbody>
</table>

**DIRECTIONS:** Some rules used in measurement, numbered 1, 2, 3, 4, and 5, are given to the right below. Some problems that can be worked with these rules are given on the left, numbered 26, 27, 28, 29, and 30. Mark the number of the rule on the right which is used to find the answer to each problem on the left.

26. Circumference of a circle
   - Rule: $2\pi r$
   - Rules Used in Measurement:
     1. Circumference divided by 3.1416 or 3 1/7.

27. Area of a parallelogram
   - Rule: $\text{base} \times \text{altitude}$
   - Rules Used in Measurement:
     2. Multiply 1/2 base by altitude.

28. Width of a rectangle
   - Rule: $\text{length} \times \text{width}$
   - Rules Used in Measurement:
     3. Multiply altitude by base.

29. Area of a triangle
   - Rule: $\frac{1}{2} \times \text{base} \times \text{height}$
   - Rules Used in Measurement:
     4. Area divided by length.

30. Diameter of a circle
   - Rule: $2r$
   - Rules Used in Measurement:
     5. Multiply the diameter by 3.1416 or 3 1/7.
DIRECTIONS: Work these problems. Then mark as you have been told the letter of each correct answer. For some of the problems none of the answers given may be correct. If you cannot work a problem, or if you think that none of the answers given is correct, you should mark the letter, e. Finish the first column before doing the second. Remember to do your figuring on scratch paper if you are marking your answers on an answer sheet.

### TEST 3 — SECTION C

<table>
<thead>
<tr>
<th>Problem</th>
<th>Equation</th>
<th>Options</th>
<th>Correct Answer</th>
</tr>
</thead>
</table>
| 31. Add: | 27 + | a 47  
|         | -16    | b 11  
|         |        | c 15  
|         |        | d 43  
|         |        | e None |
| 32. Subtract: | 67 c - 25 c | a 92 c  
|            |         | b 22 c  
|            |         | c 1652 c^2  
|            |         | d 217/25 c  
|            |         | e None |
| 33. The minuend is 5; the subtrahend is 12; the difference is | x - 7 | a -7  
|         |         | b 7  
|         |         | c 2  
|         |         | d 60  
|         |         | e None |
| 34. Multiply: | 5 (-4) | a -11  
|           |         | b 1  
|           |         | c -20  
|           |         | d 20  
|           |         | e None |
| 35. Divide: | -32  
|         | a -1/8  
|         | b 28  
|         | c -28  
|         | d -8  
|         | e None |

✓ Find the value of x in each of these equations. Then mark its letter.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Equation</th>
<th>Options</th>
<th>Correct Answer</th>
</tr>
</thead>
</table>
| 36. | 7x = 42 | a 294  
|       |         | b 6  
|       |         | c 7  
|       |         | d -35  
|       |         | e None |
| 37. | x + 7 = 10 | a 17  
|       |         | b 70  
|       |         | c 71  
|       |         | d 69  
|       |         | e None |
| 38. | x^2 = 64 | a 32  
|       |         | b 4096  
|       |         | c 8  
|       |         | d 1/8  
|       |         | e None |
| 39. | \( \frac{x}{3} = 9 \) | a 1/3  
|       |         | b 27  
|       |         | c 3  
|       |         | d 34  
|       |         | e None |
| 40. | If \( a = 6 \), \( b = 2 \), and \( c = 4 \), find the value of x in the following equation: \( x = a + b - c \) | a 4  
|       |         | b 12  
|       |         | c 32  
|       |         | d 48  
|       |         | e None |

STOP  NOW WAIT FOR FURTHER INSTRUCTIONS
DIRECTIONS: Work these problems. Then mark as you have been told the letter of each correct answer. For some of the problems none of the answers given may be correct. If you cannot work a problem, or if you think none of the answers given is correct, you should mark the letter, e. Remember to do your figuring on scratch paper if you are marking your answers on an answer sheet.

TEST 3 — SECTION D

41. In a classroom there were 7 rows of desks with 7 desks in each row. Four desks were removed from the room. How many desks were left?
   - a 45
   - b 52
   - c 38
   - d 9
   - e None

42. Henry bought a used automobile for $55.00. He paid $10.00 down and is to pay the rest in nine equal payments. How much will each payment be?
   - a $10.00
   - b $4.00
   - c $5.00
   - d $9.00
   - e None

43. Peggy weighs 85 pounds, Betty weighs 90 pounds, and Sally weighs 125 pounds. What is their average weight in pounds?
   - a 100
   - b 90
   - c 85
   - d 110
   - e None

44. How many square feet in a schoolroom blackboard which is 4 feet wide and 11 feet long?
   - a 15
   - b 7
   - c 34
   - d 74
   - e None

45. A box is 9 inches long, 5 inches wide, and 3 inches deep. How many cubic inches does it contain?
   - a 48
   - b 15
   - c 45
   - d 135
   - e None

46. Find the area of a rectangle having a base of 15 feet and an altitude of 10 feet.
   - a 25 ft.
   - b 25 sq. ft.
   - c 15 ft.
   - d 150 sq. ft.
   - e None

47. Find the area of a triangle having a base of 20 inches and an altitude of 15 inches.
   - a 300 sq. in.
   - b 150 sq. in.
   - c 35 sq. in.
   - d 25 sq. in.
   - e None
48. When the scale of a map is \( \frac{1}{2} \text{ in.} = 25 \text{ mi.} \), how far apart are two cities that are represented on a map as \( 1\frac{1}{2} \) in. apart?  
- 25 mi.  
- 100 mi.  
- 50 mi.  
- 75 mi.  
- None

49. Sam, Bill, and Jack together received $50.00. Sam received $25.00, Bill received $20.00, and Jack received $5.00. What per cent of the $50.00 did Bill receive?  
- 10  
- 50  
- 40  
- 25  
- None

50. Helen had $12.00 and spent $3.00 of it. What per cent did she spend?  
- 30  
- 25  
- 12  
- 33\%  
- None

51. A man received six per cent interest on a loan of $300.00 for one year. How much interest did he receive?  
- $180.00  
- $18.00  
- $318.00  
- $50.00  
- None

52. Mary missed 5 problems on a test and did 75\% of them correctly. How many problems were there in the test?  
- 20  
- 100  
- 25  
- 6  
- None

53. Mary solicited subscriptions for a book selling at $3.00 and got a 40\% commission. How much did she make on each book sold?  
- $0.40  
- $1.20  
- $4.20  
- $1.80  
- None

54. A house, valued at $8,000.00, was insured for 75\% of its value. The rate of insurance was 25 cents per $100.00. What was the amount of the premium?  
- $15.00  
- $115.00  
- $15.00  
- $20.00  
- None

55. Betty's father has a furniture store. The list price of a table is $60.00 and two discounts are given: one of 20\% and another of 10\%. What did the table cost Betty's father?  
- $42.00  
- $43.20  
- $76.80  
- $60.00  
- None
DIRECTIONS: Do these problems in addition. Then mark as you have been told the letter of each correct answer. For some of the problems none of the answers given may be correct. If you cannot work a problem, or if you think none of the answers given is correct, you should mark the letter, e. Finish each column before going on to the next. Be sure to reduce fractions to lowest terms. Remember to do your figuring on scratch paper if you are marking your answers on an answer sheet.

### TEST 4 — SECTION E

| 56 | 2 4 5 + 3 4 2 | a — 903  
|    | b 487  
|    | c 589  
|    | d 583  
|    | e None | (56)  
| 57 | 6 0 5 + 3 4 0 | a 365  
|    | b 265  
|    | c 945  
|    | d 1055  
|    | e None | (57)  
| 58 | 3 7 + 3 5 | a 2  
|    | b 72  
|    | c 1 1 7 5  
|    | d 62  
|    | e None | (58)  
| 59 | 4 3 + 3 9 + 2 2 + 8 6 | a 190  
|    | b 170  
|    | c 18  
|    | d 180  
|    | e None | (59)  
| 60 | 4 9 7 2 9 3 7 6 1 4 3 5 + 2 0 9 | a 14872  
|    | b 14992  
|    | c 15972  
|    | d 15992  
|    | e None | (60)  
| 61 | $ 8 9 . 6 4 5 7 3 1 5 8 2 + 5 1 2 | a $ 114.21  
|    | b $ 105.21  
|    | c $ 116.31  
|    | d $ 116.21  
|    | e None | (61)  
| 62 | $ 40.00 + $ . 1 5 + $ 3 + $ 1.8 5 | a $ 243.00  
|    | b $ 45.00  
|    | c $ 59.85  
| 63 | $ \frac{1}{5} + \frac{1}{5} | a \frac{1}{2}  
|    | b \frac{1}{2}  
|    | c \frac{1}{10}  
|    | d \%  
|    | e None | (63)  
| 64 | $ \frac{1}{3} + \frac{1}{3} | a \frac{1}{3}  
|    | b \frac{1}{3}  
|    | c \%  
|    | d \%  
|    | e None | (64)  
| 65 | $ 1 4 + 3 \frac{3}{4} | a 10 4 \%  
|    | b 11 7 \%  
|    | c 17 \%  
|    | d 17  
|    | e None | (65)  
| 66 | $ 5 8 + 3 \frac{1}{2} | a -3 \frac{1}{8}  
|    | b 4 \%  
|    | c 3 \%  
|    | d 4  
|    | e None | (66)  
| 67 | $ 1 5 \frac{1}{4} + 2 \frac{3}{8} | a 17 \frac{1}{12}  
|    | b 17 \frac{1}{12}  
|    | c 12 \frac{7}{12}  
|    | d 13 \%  
|    | e None | (67)  
| 68 | $ 3 \frac{7}{8} + 4 \frac{1}{3} | a -1 \frac{1}{4}  
|    | b 12 \%  
|    | c 8 \%  
|    | d 7 \%  
|    | e None | (68)  
| 69 | $ 4 5 \frac{1}{2} + 1 5 \frac{3}{4} + 3 5 \frac{7}{8} | a 85 \%  
|    | b 96 \frac{1}{2}  
|    | c 95 \%  
|    | d 95 \%  
|    | e None | (69)  

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Sec. E Score (number right) __________________________
DIRECTIONS: Do these problems in subtraction. Then mark as you have been told the letter of each correct answer. For some of the problems none of the answers given may be correct. If you cannot work a problem, or if you think none of the answers given is correct, you should mark the letter, e. Finish each column before going on to the next. Be sure to reduce fractions to lowest terms.

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### STOP NOW WAIT FOR FURTHER INSTRUCTIONS
DIRECTIONS: Do these problems in multiplication. Then mark as you have been told the letter of each correct answer. Finish each column before going on to the next. Be sure to reduce fractions to lowest terms.

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STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Sec. G Score (number right).................................
**DIRECTIONS:** Do these problems in division. Then mark as you have been told the letter of each correct answer. Finish each column before going on to the next. Be sure to express remainders as fractions and reduce fractions to lowest terms.

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<td>a 8899</td>
<td>a $\frac{3}{5}$</td>
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<td>d $\frac{3}{5}$</td>
<td>b .834</td>
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<tr>
<td>c 207</td>
<td>b 3</td>
<td>c 26.8</td>
</tr>
<tr>
<td>d 294756</td>
<td>e None</td>
<td>d .02412</td>
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<tr>
<td>e None</td>
<td>c $\frac{3}{25}$</td>
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<td>a $15\frac{1}{5}$</td>
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<td>d $2\frac{3}{4}$</td>
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<td>c 5800</td>
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<td>c $\frac{6}{4}$</td>
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<tr>
<td>d 128834</td>
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<td>e None</td>
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</table>

**STOP NOW WAIT FOR FURTHER INSTRUCTIONS**

**Sec. H Score**

(number right)
Language

INSTRUCTIONS TO STUDENTS:

This is a language test. In taking it you will show what you know about capitalization, punctuation, and words and sentences, and how well you can spell and write. No one can do the whole test correctly, but you should answer as many items as you can. Work as fast as you can without making mistakes.

DO NOT WRITE OR MARK ON THIS TEST BOOKLET UNLESS TOLD TO DO SO BY THE EXAMINER.
DIRECTIONS: In the sentences below the line, some of the letters with numbers after them should be capitals. Mark the number of each letter that should be a capital. Some lines may have more than one letter that should be a capital; others may have no such letter.

SAMPLE: A. His name is sam and he's my friend.  

In Sample A the number 3 letter, s, in sam, should be a capital. Notice how the 3 has been marked.

TEST 5 — SECTION A

1. he did not know that the earth is round.  
2. Jack visited his friend. they then went  
3. to a good baseball game.  
4. The only correct abbreviation for october  
5. always has three letters, oct.  
6. George washington's birthplace, virginia, is well  
7. known to most school children.  
8. He read Little women and thinks it  
9. is a very good book.  
10. The last Thursday of november is known to  
11. all of our people as thanksgiving.  
12. Beautiful england has a capital named london.  
13. Last wednesday they saw the grand Canyon  
14. but I visited with my aunt Sally.  
15. Barbara said, "will you go with me?"
TEST 5 — SECTION B

Sunday, on the way back from a camping trip, Ned and Sam met Jack, who asked, "Where have you been?"

"We have been camping down by the river," answered Ned, "We did some good fishing, hiking, and swimming."

Sam said, "Ned really saved my life too. I slipped off the bank into the river and hurt my arm, so I couldn’t swim. Then Ned yelled, ‘Don’t fight, so I turned over on my back and floated."
TEST 5 — SECTION C

36. (1 Don't 2 Doesn't) he want to go to the party?

37. We (1 were 2 was) at the game yesterday.

38. She should (1 have done 2 have did) her work at once.

39. We were at the basketball game last night where we (1 saw 2 seen) some excellent playing.

40. He should (1 have gone 2 have went) to the theater last night.

41. The book was not opened by (1 she 2 her) or Anne.

42. It was (1 there 2 their) book that was lost.

43. Mrs. Jones gave the sack of candy to her and (1 I 2 me.)

44. We (1 got 2 need) to go home.

45. (1 "Can 2 "May) we go to the party?"

46. Working our way down to the valley.

47. After watching carefully for about twenty minutes.

48. The next morning we were up at daylight.

49. When we reached a position near the summit.

50. With its beautiful purplish blush.

51. Damascus is said to be the oldest city in the world.

52. With a faith that leads us to worship the specialist.

53. Training in application of the principles learned.

54. To the pupil who does not succeed there is something mysterious about percentage.

55. While there are some obvious social factors influencing man, and while there are some other forces of a more personal nature which help.
DIRECTIONS: Read the following sentence. Then consider how each individual word in that sentence is used in order that you may classify it as a part of speech. Mark the number which shows the classification of each word. If you do not know an answer, or if you think that none of the answers given is correct, mark the number, 5.

We walk by the river nearly every day and watch other older children sail boats which glide over the water.

<table>
<thead>
<tr>
<th>WORDS</th>
<th>PARTS OF SPEECH</th>
</tr>
</thead>
<tbody>
<tr>
<td>56. we</td>
<td>1 noun 2 pronoun 3 verb 4 adjective 5 None</td>
</tr>
<tr>
<td>57. walk</td>
<td>1 noun 2 verb 3 adjective 4 adverb 5 None</td>
</tr>
<tr>
<td>58. by</td>
<td>1 pronoun 2 adverb 3 conjunction 4 preposition 5 None</td>
</tr>
<tr>
<td>59. the</td>
<td>1 verb 2 adjective 3 adverb 4 conjunction 5 None</td>
</tr>
<tr>
<td>60. river</td>
<td>1 verb 2 noun 3 adjective 4 adverb 5 None</td>
</tr>
<tr>
<td>61. nearly</td>
<td>1 noun 2 verb 3 adjective 4 adverb 5 None</td>
</tr>
<tr>
<td>62. every</td>
<td>1 noun 2 pronoun 3 adjective 4 adverb 5 None</td>
</tr>
<tr>
<td>63. day</td>
<td>1 noun 2 verb 3 adjective 4 adverb 5 None</td>
</tr>
<tr>
<td>54. and</td>
<td>1 pronoun 2 adverb 3 conjunction 4 preposition 5 None</td>
</tr>
<tr>
<td>55. watch</td>
<td>1 noun 2 verb 3 adjective 4 adverb 5 None</td>
</tr>
<tr>
<td>56. other</td>
<td>1 noun 2 pronoun 3 adjective 4 adverb 5 None</td>
</tr>
<tr>
<td>57. older</td>
<td>1 noun 2 verb 3 adjective 4 adverb 5 None</td>
</tr>
<tr>
<td>58. children</td>
<td>1 noun 2 verb 3 adjective 4 adverb 5 None</td>
</tr>
<tr>
<td>59. sail</td>
<td>1 noun 2 verb 3 adjective 4 adverb 5 None</td>
</tr>
<tr>
<td>60. boats</td>
<td>1 noun 2 verb 3 adjective 4 adverb 5 None</td>
</tr>
<tr>
<td>61. which</td>
<td>1 verb 2 pronoun 3 conjunction 4 adjective 5 None</td>
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<tr>
<td>71. glide</td>
<td>1 noun 2 verb 3 adjective 4 adverb 5 None</td>
</tr>
<tr>
<td>73. over</td>
<td>1 pronoun 2 adjective 3 conjunction 4 preposition 5 None</td>
</tr>
<tr>
<td>74. the</td>
<td>1 noun 2 adjective 3 pronoun 4 adverb 5 None</td>
</tr>
<tr>
<td>75. water</td>
<td>1 noun 2 verb 3 adjective 4 adverb 5 None</td>
</tr>
</tbody>
</table>
DIRECTIONS: Each line in this test contains four spelled words and the word None. These words are numbered 1, 2, 3, 4, and the None is numbered 5. In some of the lines, one word is misspelled. In others, no word is misspelled. If there is a misspelled word, mark its number. If no word is misspelled, mark the 5.

SAMPLE: C. 1 now 2 just 3 come 4 ron 5 None
Correct Test Booklet Mark

SAMPLE: D. 1 go 2 see 3 do 4 may 5 None
Correct Answer Sheet Mark

TEST 6

Correct Test Booklet Mark | Correct Answer Sheet Mark
---|---
1 | 2 | 3 | 4 | 5

76. 1 drank 2 contry 3 offer 4 stairs 5 None
77. 1 worked 2 jumping 3 eyes 4 too 5 None
78. 1 elephant 2 calm 3 rough 4 extra 5 None
79. 1 gravy 2 diference 3 cape 4 daisy 5 None
80. 1 length 2 grease 3 chosen 4 innocent 5 None
81. 1 kite 2 canal 3 telephone 4 waste 5 None
82. 1 misspell 2 column 3 inquire 4 graze 5 None
83. 1 jolly 2 dying 3 fountin 4 cariage 5 None
84. 1 fled 2 wreck 3 mushroom 4 hence 5 None
85. 1 probaly 2 diet 3 cable 4 target 5 None
86. 1 replace 2 anual 3 solve 4 voluntere 5 None
87. 1 suburb 2 inability 3 medium 4 arrival 5 None
88. 1 economy 2 comply 3 mariage 4 ticket 5 None
89. 1 melt 2 exspect 3 arrow 4 jelly 5 None
90. 1 invite 2 cattle 3 peice 4 depot 5 None
91. 1 dictionery 2 tumble 3 glance 4 slipped 5 None
92. 1 aim 2 indeed 3 clerk 4 someone 5 None
93. 1 knee 2 cherry 3 Saterday 4 pattern 5 None
94. 1 tailor 2 frigtened 3 joint 4 aproval 5 None
95. 1 dread 2 serve 3 sauser 4 escape 5 None
96. 1 respect 2 whom 3 terible 4 lining 5 None
97. 1 senery 2 narrow 3 lieure 4 deprive 5 None
98. 1 tariff 2 fiction 3 attitide 4 durable 5 None
99. 1 luxury 2 referense 3 attitude 4 acquire 5 None
100. 1 celery 2 assure 3 thoroughly 4 acquire 5 None
101. 1 talent 2 committed 3 surgeon 4 storage 5 None
102. 1 tractor 2 relevie 3 illustrate 4 neglect 5 None
103. 1 indevidual 2 nuisance 3 grippe 4 discipline 5 None
104. 1 install 2 fundamental 3 exquisite 4 cunning 5 None
105. 1 indecent 2 volcanoes 3 stationery 4 equiped 5 None
1. Writing the words which are pronounced.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
</table>

2. Now wait for further instructions.

Grade Placement

Intermediate

DIAGNOSTIC ANALYSIS OF LEARNING DIFFICULTIES

1. Reading Vocabulary
   - A. MATHEMATICS:
     - 1-22: Basic vocabulary
   - B. SCIENCE:
     - 23-45: Basic vocabulary
   - C. SOCIAL SCIENCE:
     - 46-68: Basic vocabulary
   - D. GENERAL:
     - 69-90: Basic vocabulary

2. Reading Comprehension
   - E. FOLLOWING SPECIFIC DIRECTIONS:
     - 91, 92: Simple choice
     - 93, 94, 95: Definitions and directions
     - 96, 97, 98: Selecting references
     - 99, 100: Definitions and directions
   - F. REFERENCE SKILLS:
     - 101, 102, 103: Parts of book
     - 104, 105: Table of contents
     - 106, 107: Table of contents
     - 108, 109, 110: Use of index
     - 111, 112, 113: Selecting references
     - 114, 115: Definitions and directions
   - G. INTERPRETATION OF MEANINGS:
     - 116, 123, 130: Topic or central idea
     - 117, 118, 119: Directly stated facts
     - 120, 121, 122: Definitions and directions
     - 123, 124, 125: Interferences
     - 126, 127, 128: Interferences
     - 129, 130, 131: Organization of topics
     - 132, 133, 134: Sequence of events
   - H. PROBLEMS:
     - 135, 136: Two-step
     - 137, 138: Sharing and averaging
     - 139, 140: Square and cu. measure
     - 141, 142: Ratio
     - 143, 144: Percentage
     - 145, 146: Commission and discount

3. Arithmetic Reasoning
   - A. NUMBER CONCEPT:
     - 1, 2, 3: Writing numbers
     - 4, 5: Writing money
     - 6, 7: Writing per cent
     - 8, 9, 10: Whole numbers
     - 11, 12: Fractions and decimals
     - 13, 14: Exponents
     - 15, 16: Names of numbers
     - 17, 18: Pronouns
     - 19, 20: Verbs
     - 21, 22: Adjectives
     - 23, 24: Adverbs
     - 25, 26: Conjunctions
     - 27, 28: Prepositions
   - B. SYMBOLS AND RULES:
     - 16, 17, 18: Symbols
     - 19, 20: Vocabulary
     - 21, 22: Rules
   - C. NUMBERS AND EQUATIONS:
     - 31, 32, 33: Negative numbers
     - 34, 35: Solving equations
   - D. PROBLEMS:
     - 41, 42, 43: Two-step
     - 44, 45: Sharing and averaging
     - 46, 47: Square and cu. measure
     - 48, 49: Ratio
     - 50, 51: Percentage
     - 52, 53: Commission and disc.
   - E. ADDITION:
     - 56, 57: Simple combinations
     - 58, 59: Carrying
     - 60, 61: Adding money
     - 62, 63: Adding numerators
     - 64, 65: Adding denominators
     - 66, 67: Common denom.
     - 68, 69: Mixed numbers
     - 70, 71: Fractions and decimals
     - 72, 73: Writing decimals
     - 74, 75: Adding percentages
   - F. SUBTRACTION:
     - 76, 77: Simple combinations
     - 78, 79: Borrowing
     - 80, 81: Zeros
     - 82, 83: Subtracting money
     - 84, 85: Subtracting numerators
     - 86, 87: Common denom.
     - 88, 89: Whole from mixed numbers
     - 90, 91: Borrowing
     - 92, 93: Mixed numbers
     - 94, 95: Fractions and decimals
   - G. MULTIPLICATION:
     - 96, 97, 98: Tables
     - 99, 100, 101: Zeros in multiplication
     - 102, 103: Zeros in multiplication
     - 104, 105: Fractions and decimals
     - 106, 107: Two-place multiplication
     - 108, 109: Cancellation, fractions
   - H. DIVISION:
     - 110, 111: Zeros in quotient
     - 112, 113: Remainders
     - 114, 115: Pointing off decimals
     - 116, 117, 118: Mixed numbers
   - I. MEANINGS:
     - 119, 120, 121: Tables
     - 122, 123, 124, 125: Inverting divisors
     - 126, 127, 128: Title of book
     - 129, 130: Title of person
     - 131, 132, 133, 134: First word of quotation
     - 135, 136: Over-capitalization
   - J. PUNCTUATION:
     - 137, 138: Common
     - 139, 140: Question marks
     - 141, 142: Quotation marks
     - 143, 144: Over-punctuation
   - K. WORDS AND SENTENCES:
     - 145, 146: Singulars and plurals
     - 147, 148: Case
     - 149, 150: Good usage
     - 151, 152: Recognizing sentences
   - L. PARTS OF SPEECH:
     - 153, 154: Nouns
     - 155, 156: Pronouns
     - 157, 158: Verbs
     - 159, 160: Adjectives
     - 161, 162: Adverbs
     - 163, 164: Conjunctions
     - 165, 166: Prepositions
   - M. SPELLING:
     - 167, 168: See profile
   - HANDWRITING:
     - 169, 170: See profile
## California Achievement Tests

**Grades 7-8-9**

**Form BB**

**Devised by Ernest W. Tiegs and Willis W. Clark**

### Test Form

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### Test Information

- **Name:**
- **Last:**
- **First:**
- **Middle:**
- **Occupation or Grade:**
- **Sex:**
- **Date of Test:**
- **Month:**
- **Day:**
- **Year:**

- **School or Organization:**
- **City:**
- **Examiner:**
- **Student's Age:**
- **Date of Birth:**
- **Month:**
- **Day:**
- **Year:**

---

**TOTAL Arithmetical Problems:**

- Addition: 35
- Subtraction: 20
- Multiplication: 20
- Division: 20

**TOTAL Total Arithmetic:**

- 250

**TOTAL Reading Comprehension:**

- 205

**TOTAL Total Reading:**

- 410

**TOTAL Total Test:**

- 615

---

**Diagnostic Information**

- **Total Number Correct:**
- **Percentage Correct:**
- **Total Number错:**
- **Percentage错:**
- **Total Number Not Done:**
- **Percentage Not Done:**

---

**Scores by Paragraphs:**

- Paragraph 1:
- Paragraph 2:
- Paragraph 3:
- Paragraph 4:

---

**Scores by Questions:**

- Question 1:
- Question 2:
- Question 3:
- Question 4:

---

**Scores by Sentences:**

- Sentence 1:
- Sentence 2:
- Sentence 3:
- Sentence 4:

---

**Scores by Words:**

- Word 1:
- Word 2:
- Word 3:
- Word 4:

---

**Scores by Signs:**

- Sign 1:
- Sign 2:
- Sign 3:
- Sign 4:
INSTRUCTIONS TO STUDENTS:

This is a reading test. In taking it you will show how many words you know and how well you understand what you read. No one can do the whole test correctly, but you should answer as many items as you can. Work as fast as you can without making mistakes.

DO NOT WRITE OR MARK ON THIS TEST BOOKLET UNLESS TOLD TO DO SO BY THE EXAMINER.
DIRECTIONS: If two words are the same or mean the same, mark S as you are told. If they are different or mean different things, mark D.

SAMPLE: A. dog dog dog dog
SAMPLE: B. boy girl boy girl

TEST 1 — SECTION A

1. walk give
2. water water
3. sister sister
4. joy jay
5. starch starch
6. country country
7. disabuse disuse
8. gloss loss
9. legion legion
10. shrug shred
11. shrink shrill
12. wither whither
13. scalpel scalpel
14. professed preferred
15. interposing interpreting
16. STATESMAN STATESMAN
17. PLANTING PLANTING
18. RETREAT RETREAT
19. GENEROUSLY GENERALLY
20. subterranean SUBTERRANEAN
21. DRILL DROLL
22. TRUCK trick
23. vacation Vocation
24. stringent stringent
25. clarification clarification
DIRECTIONS: Look at the words which are given on the lower part of this page. Each line is numbered and each word has a smaller number, 1, 2, 3, or 4 in front of it. There are four words on each line. The examiner will pronounce one word from each line. You are to mark as you are told the number of the word that is pronounced.

PRACTICE EXERCISE

SAMPLE: C. 1 cow  2 horse  3 dog  4 goat
In this sample the word is dog, so the 3 is marked.

SAMPLE: D. 1 run  2 jump  3 throw  4 swing
You are to mark the number of the word that was pronounced. It is number 4.

TEST 1 — SECTION B

✓ Mark as you have been told the number of the word pronounced.

26. 1 free  2 bell  3 do  4 those
27. 1 grand  2 grant  3 grind  4 growl
28. 1 wrote  2 wiring  3 wren  4 wrap
29. 1 Saturday  2 Sunday  3 Friday  4 Monday
30. 1 crying  2 flying  3 tying  4 dyeing
31. 1 April  2 May  3 September  4 December
32. 1 though  2 thought  3 through  4 thorough
33. 1 prance  2 prancing  3 praise  4 prate
34. 1 warble  2 warrior  3 wobble  4 wanton
35. 1 effigy  2 elegy  3 electroscope  4 elaboration
36. 1 politics  2 primal  3 publican  4 prelude
37. 1 blot  2 blizzard  3 blighting  4 blustering
38. 1 arrive  2 acquire  3 avenge  4 associate
39. 1 YARD  2 YOUNGSTER  3 YIELD  4 YAK
40. 1 WHIR  2 WHARVE  3 wholesome  4 whist
41. 1 receipt  2 recite  3 regime  4 ravine
42. 1 caravan  2 caution  3 carnival  4 contagion
43. 1 MEGAPHONE  2 maxillary  3 mature  4 massive
44. 1 charter  2 chauffeur  3 chapel  4 chlorophane
45. 1 pneumonia  2 rheumatic  3 neophite  4 rheostat
DIRECTIONS: Mark as you are told the number of the word that means the opposite or the opposite of the first word.

SAMPLE: E. little 1 blue. 2 run 3 big 4 rich 3 E

<table>
<thead>
<tr>
<th>TEST 1 — SECTION C</th>
</tr>
</thead>
<tbody>
<tr>
<td>46. hard 1 red 2 easy 3 fun 4 plan</td>
</tr>
<tr>
<td>47. honest 1 note 2 above 3 empty 4 dishonest</td>
</tr>
<tr>
<td>48. appear 1 serve 2 depart 3 buy 4 hear</td>
</tr>
<tr>
<td>49. obtain 1 retain 2 halt 3 lose 4 fret</td>
</tr>
<tr>
<td>50. careful 1 careless 2 hurry 3 point 4 rain</td>
</tr>
<tr>
<td>51. worthy 1 hide 2 cruel 3 unworthy 4 seek</td>
</tr>
<tr>
<td>52. practical 1 settle 2 lie 3 aim 4 useless</td>
</tr>
<tr>
<td>53. intelligent 1 stupid 2 center 3 blame 4 double</td>
</tr>
<tr>
<td>54. faithful 1 trade 2 false 3 drain 4 challenge</td>
</tr>
<tr>
<td>55. rage 1 handy 2 loss 3 joy 4 numerous</td>
</tr>
<tr>
<td>56. brief 1 rent 2 hurt 3 submit 4 long</td>
</tr>
<tr>
<td>57. rude 1 polite 2 deserve 3 strike 4 nerve</td>
</tr>
<tr>
<td>58. reward 1 hunger 2 penalty 3 reign 4 bitter</td>
</tr>
<tr>
<td>59. ordinary 1 local 2 strive 3 unusual 4 content</td>
</tr>
<tr>
<td>60. gloomy 1 hum 2 rule 3 hinder 4 cheerful</td>
</tr>
<tr>
<td>61. healthy 1 sample 2 lovely 3 grin 4 ailing</td>
</tr>
<tr>
<td>62. sufficient 1 pleasant 2 degree 3 refer 4 inadequate</td>
</tr>
<tr>
<td>63. sensible 1 ignorant 2 alert 3 origin 4 lawyer</td>
</tr>
<tr>
<td>64. obscure 1 deal 2 clear 3 prey 4 despise</td>
</tr>
<tr>
<td>65. tardy 1 ready 2 blunder 3 prompt 4 humor</td>
</tr>
<tr>
<td>66. cruel 1 fresh 2 vary 3 woe 4 humane</td>
</tr>
<tr>
<td>67. energetic 1 quiet 2 perfection 3 glitter 4 display</td>
</tr>
<tr>
<td>68. timid 1 pine 2 harp 3 valiant 4 hint</td>
</tr>
</tbody>
</table>

Page 5

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Sec. C Score (number right)...........................................
**DIRECTIONS:** Mark as you are told the number of the word that means the same as the first word.

**SAMPLE:** F. large 1. pretty 2. run 3. big 4. rich

<table>
<thead>
<tr>
<th>Correct Test Booklet Mark</th>
<th>Correct Answer Sheet Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>F 1 2 3 4</td>
<td>F 1 2 3 4</td>
</tr>
</tbody>
</table>

**TEST 1 — SECTION D**

<table>
<thead>
<tr>
<th>69. wish</th>
<th>1. odd 2. join 3. want 4. set</th>
</tr>
</thead>
<tbody>
<tr>
<td>70. keep</td>
<td>1. retain 2. right 3. find 4. state</td>
</tr>
<tr>
<td>71. learn</td>
<td>1. first 2. study 3. copy 4. agree</td>
</tr>
<tr>
<td>72. prepare</td>
<td>1. steal 2. flat 3. arrange 4. slow</td>
</tr>
<tr>
<td>73. delight</td>
<td>1. teach 2. bloom 3. cute 4. please</td>
</tr>
<tr>
<td>74. yield</td>
<td>1. type 2. land 3. surrender 4. mad</td>
</tr>
<tr>
<td>75. struggle</td>
<td>1. home 2. urge 3. ugly 4. contest</td>
</tr>
<tr>
<td>76. request</td>
<td>1. ask 2. observe 3. labor 4. issue</td>
</tr>
<tr>
<td>77. admit</td>
<td>1. prize 2. confess 3. like 4. vow</td>
</tr>
<tr>
<td>78. celebrate</td>
<td>1. note 2. peace 3. rejoice 4. scare</td>
</tr>
<tr>
<td>79. endure</td>
<td>1. season 2. spike 3. levy 4. tolerate</td>
</tr>
<tr>
<td>80. plot</td>
<td>1. conspiracy 2. gloom 3. hard 4. levy</td>
</tr>
<tr>
<td>81. penalty</td>
<td>1. release 2. punishment 3. coin 4. picture</td>
</tr>
<tr>
<td>82. burden</td>
<td>1. copper 2. grace 3. catch 4. load</td>
</tr>
<tr>
<td>83. distress</td>
<td>1. misery 2. humor 3. naval 4. noise</td>
</tr>
<tr>
<td>84. offense</td>
<td>1. flock 2. letter 3. crime 4. book</td>
</tr>
<tr>
<td>85. sadness</td>
<td>1. riot 2. fade 3. grief 4. order</td>
</tr>
<tr>
<td>86. hint</td>
<td>1. pause 2. bar 3. flaw 4. suggestion</td>
</tr>
<tr>
<td>87. energy</td>
<td>1. power 2. farming 3. grasp 4. float</td>
</tr>
<tr>
<td>88. cherish</td>
<td>1. block 2. prize 3. test 4. heir</td>
</tr>
<tr>
<td>89. enchant</td>
<td>1. fail 2. heed 3. contest 4. fascinate</td>
</tr>
<tr>
<td>90. replace</td>
<td>1. progress 2. resume 3. restore 4. reject</td>
</tr>
</tbody>
</table>
DIRECTIONS: Read the following directions. Mark as you are told the number or letter of each correct answer.

TEST 2 — SECTION E

91. By crossing out two letters you can make friend out of the word, friendly. Mark the number of the two letters which would be crossed out.
   1 ly  2 fy  3 lf  4 dy ——91

92. Find the name of the smallest animal and mark its number.
   1 horse  2 cow  3 mouse  4 dog ——92

93. Some of the Roman numerals and their values are:
   IX=9  XIX=19  XX=20  XXI=21
   Mark the letter of the Roman numeral for 19.
   a IX  b XIX  c XXI  d XX ——93

94. Mark the number of the eighth word in this sentence.
   1 this  2 in  3 word  4 line ——94

95. Mark the letter which must be added to hom to make home.
   i  a  s  e ——95

96. Mark the third letter of the last word of this sentence.
   e  a  n  r  t ——96

97. Read the following names:
   Bert  Clara  Ethel  Bill
   Mark the number which shows the first letter of the boys' names.
   1 E  2 B  3 C ——97

98. Read these numbers:
   1 4 3 6 2 9 7 9 5
   Mark the letter of the third number to the right of 6.
   a 7  b 2  c 9  d 1 ——98

99. The suffix ness is used to form nouns meaning state or condition; such as ill, illness. Mark the number of the word which has the suffix ness added to the word, hard.
   1 hardiness  2 ness  3 hard  4 hardness ——99

100. Words ending with e generally drop the e before suffixes beginning with a vowel; such as admire, admirable. Mark the number of the word which has the suffix able added to the word, pleasure.
    1 pleasureable  2 admirable  3 pleasurable  4 able ——100

STOP  NOW WAIT FOR FURTHER INSTRUCTIONS
101. The index is found in what part of a book?
1 end  2 middle  3 beginning ————101

102. The title is found in what part of the book?
1 end  2 middle  3 beginning ————102

Read this list of words:

yet point
joy boat
hike kitten
queen route

If the above words were arranged alphabetically,

103. hike would come next after
1 boat  2 kitten  3 yet ————103

104. point would come next after
1 queen  2 joy  3 kitten ————104

Look at the following and find the answers to items 105, 106, and 107.

Table of Contents

Chapter  Page
1. How Nations Depend on Each Other... 1
2. How Natural Conditions Influence Life 15
3. Growth in Population and Trade....27
4. Wheat and Corn Products..............42
5. Meat and Dairy Products..............60
6. Sugar from Various Sources...........78

105. Mark the letter of the page which shows where “Meat and Dairy Products” begins.
   a 27  b 42  c 60  d 78 ————105

106. Mark the number which shows what story begins on page 42.
   1 Meat and Dairy Products
   2 Wheat and Corn Products
   3 Sugar from Various Sources ————106

107. Mark the number which shows to which chapter the material on page 25 belongs.
   1  2  3  4  5 ————107

Look at this partial index and find the answers to items 108, 109, and 110.

INDEX

Gold, 220, 309, 823; in Alaska, 233; in Australia, 305; in Canada, 296-297; in the Rocky Mountains, 48; in Russia, 471.

Graf Zeppelin, 223.

Grapefruit, 49, 103, 110, 624.

Grapes, 92, 261, 304, 378; in Canada, 295; in France, 379; in the United States, 49.

Grazing, 35, 36, 46, 48.

Great Britain, 7, 8, 233, 403; as a commercial nation, 277-288; coal, 151; navy, 158; trade with U. S., 62.

108. Mark the letter which shows on what page information concerning the Graf Zeppelin will be found.
   a 233  b 223  c 48  d 103 ————108

109. Mark the letter which shows on what page information concerning grapes in France will be found.
   a 261  b 49  c 379  d 295 ————109

110. Mark the letter which shows on what page information about Great Britain’s trade with the United States will be found.
   a 151  b 403  c 277  d 62 ————110

STOP NOW WAIT FOR FURTHER INSTRUCTIONS
TEST 2 — SECTION G

Read this story:

The polar bear is king of the frozen north. He lives in the region of snow and ice, and his coat is all white. He is not afraid of man or other animals. Fish, seals, sea lions, and walruses furnish most of his food. During the winter the female bear buries herself in the snow and there her young are born. The white coat of the polar bear is so in keeping with his surroundings that it is of the greatest aid to him in his hunting and in protecting him from danger.

Mark as you have been told the number of each correct answer. You may look back to find the answers.

111. The best title for the above story is
   1 Wild Animals
   2 The Polar Bear
   3 The Frozen North

112. The polar bear’s color is
   1 plain  2 brown  3 like his surroundings

113. The young are born in
   1 the forest  2 the deep snow  3 the mountains

114. For food, polar bears hunt for
   1 fish and seals  2 plants  3 berries

115. The polar bear is
   1 afraid  2 tame  3 fearless

116. His home is in the
   1 cold regions  2 forests  3 deserts

Mark the number of each correct answer. You may look back to find the answers.

117. The above story is about
   1 the South Pacific  2 Australia  3 large islands

118. The heart of Australia is a vast
   1 forest  2 sheep ranch  3 desert

119. On the eastern slope of the mountains there is
   1 a desert  2 abundant rainfall  3 an unexplored forest

120. We may conclude that the climate of Australia is
   1 varied  2 similar to Great Britain  3 tropical

121. Choose the best statement:
   1 There are no large cities in Australia
   2 Australia has very few industries
   3 Australia has many unexplored areas
Read the six titles below. You are to select the one that would make the best title for each of the three paragraphs of the story.

Titles
1. Trinidad Island
2. Location of Asphalt
3. Underground Sources
4. Removal of Asphalt
5. Uses of Asphalt
6. Road Making

124. The best title for the first paragraph is number
1 2 3 4 5

125. The best title for the second paragraph is number
2 3 4 5 6

126. The best title for the third paragraph is number
2 3 4 5 6

The following things are mentioned in the story:
Removing the slabs
Use in road making
Transporting the large cakes
Hardening of the pitch

The order in which the above things were mentioned in the story is as follows:

127. Removing the slabs was
1st 2nd 3rd 4th

128. Transporting the large cakes was
1st 2nd 3rd 4th

129. Use in road making was
1st 2nd 3rd 4th

130. Hardening of the pitch was
1st 2nd 3rd 4th
INSTRUCTIONS TO STUDENTS:

This is a reading test. In taking it you will show how many words you know and how well you understand what you read. No one can do the whole test correctly, but you should answer as many items as you can. Work as fast as you can without making mistakes.

DO NOT WRITE OR MARK ON THIS TEST BOOKLET UNLESS TOLD TO DO SO BY THE EXAMINER.
**DIRECTIONS:** As you are told the number of the word that means the opposite or about the opposite of the first word.

**SAMPLE:**

A. large 1 rich 2 small 3 gone 4 away

**TEST 1 — SECTION A**

<table>
<thead>
<tr>
<th>Correct Test Booklet Mark</th>
<th>Correct Answer Sheet Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 A</td>
<td>A 1 2 3 4</td>
</tr>
</tbody>
</table>

1. answer 1 label 2 bare 3 question 4 trim
2. save 1 date 2 solve 3 spend 4 rate
3. length 1 gain 2 blot 3 double 4 width
4. divide 1 provide 2 multiply 3 deride 4 separate
5. center 1 edge 2 prepare 3 elude 4 place
6. deposit 1 alarm 2 withdraw 3 clay 4 moisture
7. reduce 1 consume 2 modify 3 enlarge 4 contract
8. latitude 1 name 2 exist 3 connective 4 longitude
9. cheap 1 valuable 2 conceal 3 bright 4 gain
10. add 1 manage 2 inch 3 seal 4 deduct
11. question 1 numeral 2 solution 3 distance 4 partly
12. profit 1 heed 2 loss 3 average 4 name
13. duty 1 trim 2 piece 3 exit 4 rebate
14. correct 1 inaccurate 2 mature 3 balance 4 lucid
15. balance 1 wheel 2 deficit 3 adjust 4 poise
16. collect 1 interest 2 suspect 3 insult 4 disperse
17. bill 1 money 2 receipt 3 trust 4 charge
18. transverse 1 signet 2 complex 3 parallel 4 corpse
19. refute 1 refuse 2 expand 3 prove 4 separate
20. income 1 money 2 expenditure 3 budget 4 debtor
21. economical 1 ornate 2 scion 3 liberal 4 productive
22. tangent 1 motile 2 antagonize 3 merge 4 intersect
23. bitter 1 supple 2 pert 3 sweet 4 contract
24. fresh 1 calm 2 spoiled 3 delicious 4 marsh
25. freeze 1 melt 2 human 3 permit 4 farther
26. increase 1 ascend 2 refer 3 reduce 4 produce
27. dye 1 madman 2 dell 3 badge 4 bleach
28. incline 1 definite 2 decline 3 expand 4 delight
29. muscular 1 modish 2 brine 3 weak 4 punctual
30. separate 1 bleach 2 annual 3 tense 4 unite
31. revive 1 congenial 2 taint 3 relapse 4 aloft
32. brittle 1 similar 2 flexible 3 bright 4 harsh
33. tropical 1 frigid 2 luscious 3 ahoy 4 breeze
34. partial 1 complicate 2 preserve 3 complete 4 decrease
35. discard 1 dedicate 2 obtain 3 consume 4 obligate
36. dissolve 1 contract 2 pliant 3 lucidity 4 solidify
37. diverge 1 shorten 2 converge 3 stabilize 4 permit
38. distend 1 blithe 2 deflate 3 sesame 4 appease
39. stable 1 recent 2 spread 3 origin 4 fluctuating
40. conductor 1 factor 2 generator 3 destroyer 4 insulator
41. automatic 1 manual 2 pliable 3 similar 4 diversified
42. absorb 1 emulate 2 involve 3 emit 4 abstain
43. acidity 1 nativity 2 alkalinity 3 acute 4 lucidity
44. extract 1 inject 2 pollute 3 retract 4 interrupt
45. plastic 1 sophisticate 2 rigid 3 lurid 4 vigilant

**CIR-CC**

<table>
<thead>
<tr>
<th>Sec. A Score (number right)</th>
<th>Sec. B Score (number right)</th>
</tr>
</thead>
</table>
DIRECTIONS: Mark as you are told of the word that means the opposite or about the opposite of the first word.

SAMPLE: B. large 1 rich 2 small 3 gone 4 away

TEST 1 — SECTION C

46. slave 1 master 2 next 3 important 4 article 46
47. defend 1 avenue 2 attack 3 shower 4 district 47
48. free 1 title 2 value 3 firm 4 enslave 48
49. innocent 1 guilty 2 conditional 3 previous 4 judicial 49
50. courage 1 position 2 timidity 3 degree 4 interest 50
51. slavery 1 unsavory 2 unequal 3 freedom 4 cancel 51
52. majority 1 compound 2 variable 3 minority 4 aged 52
53. produce 1 destroy 2 director 3 principal 4 record 53
54. appoint 1 suggest 2 discharge 3 censure 4 praise 54
55. internal 1 unequal 2 external 3 principal 4 vertical 55
56. convict 1 conceive 2 concoct 3 acquit 4 frame 56
57. ancient 1 square 2 fertile 3 modern 4 brave 57
58. desert 1 sandy 2 lucid 3 torrid 4 fertile 58
59. civilized 1 primitive 2 docile 3 sterile 4 brittle 59
60. abolish 1 repel 2 purify 3 establish 4 defeat 60
61. treason 1 manna 2 loyalty 3 ire 4 embargo 61
62. justice 1 commend 2 guide 3 record 4 favoritism 62
63. homage 1 valet 2 chapter 3 disrespect 4 information 63
64. hostile 1 hideous 2 friendly 3 abundant 4 scene 64
65. condemn 1 exonerate 2 grudge 3 scheme 4 wail 65
66. prejudice 1 oracle 2 treachery 3 gesture 4 impartiality 66
67. evidence 1 ruin 2 supposition 3 problem 4 guidance 67
68. exalt 1 painted 2 comply 3 dethrone 4 err 68

TEST 1 — SECTION D

69. noise 1 silence 2 flier 3 wallet 4 infest 69
70. absent 1 number 2 milk 3 present 4 compel 70
71. stupid 1 final 2 witty 3 effect 4 origin 71
72. please 1 cherish 2 envy 3 test 4 annoy 72
73. clear 1 dim 2 cleverness 3 humor 4 reprove 73
74. laugh 1 Jewelry 2 belief 3 sulk 4 charge 74
75. sincere 1 feeble 2 abhor 3 slightly 4 insincere 75
76. genuine 1 celestial 2 false 3 fluent 4 moral 76
77. usual 1 cheap 2 abnormal 3 proud 4 pass 77
78. confident 1 annual 2 suit 3 snub 4 uncertain 78
79. shrill 1 faint 2 ashen 3 aria 4 naive 79
80. hospitable 1 unsocial 2 acid 3 trouble 4 mortal 80
81. complete 1 horror 2 deficient 3 ordinary 4 ignite 81
82. thoughtful 1 thorough 2 sinister 3 inattentive 4 huge 82
83. flatter 1 definite 2 antic 3 slander 4 mope 83
84. prominent 1 celestial 2 historic 3 assume 4 commonplace 84
85. eloquent 1 imbue 2 entice 3 technical 4 inarticulate 85
86. reluctant 1 deceptive 2 eager 3 demure 4 nameless 86
87. polished 1 appalled 2 enlisted 3 vulgar 4 verbose 87
88. superficial 1 curious 2 cunning 3 moraine 4 profound 88
89. stoical 1 guilty 2 dull 3 excitable 4 thoughtful 89
90. literary 1 sinister 2 cunning 3 prosaic 4 deceptive 90
91. Read the following words: eat door roof fly
Mark the number which shows the first letters of the names of parts of a house.
1 ef 2 fd 3 dr 4 re ——91

92. Read these numbers:
7 2 4 3 5 6 8 9 1 2
Mark the letter of the fourth number after 3.
a 1 b 9 c 8 d 6 ——92

93. The altitude of a parallelogram is found by dividing the area by the base. Mark the letter which shows the altitude of a parallelogram which has an area of 100 square feet and a base of 10 feet.
a 10 b 1000 c 20 d 8 ——93

94. Longitude is the distance east or west of Greenwich, the prime meridian, on the earth's surface. Mark the letter of the following ship's reading which indicates longitude.
a North 12° 42' 20''
b East 150° 36' 30''
c South 54° 14' 10'' ——94

95. African is the proper adjective derived from the proper noun, Africa. Mark the number of the word which is the proper adjective of the proper noun, Bolivia.
1 Bolivia 2 Bolivia's 3 Bolivian ——95

96. Regular adverbs are formed by adding ly to the adjectives, such as sweet, sweetly. Mark the number of the word which is the adverb formed from the adjective, clean.
1 cleanly 2 cleanest 3 cleaner ——96

97. The plural of a noun ending in y preceded by a consonant is formed by changing the y to i and adding es; as ivory, ivories. Mark the number of the word which indicates correctly the plural of the noun, harmony.
1 harmones 2 harmonies 3 harmonyes ——97

98. The suffix ous added to a noun forms an adjective meaning full of or abounding in; as joy, joyous. Mark the number of the word which uses this suffix correctly with mountain.
1 mountainous 2 mountain 3 mountains ——98

99. Read the following recipe:
1 tablespoonful butter
1 cup milk
1 teaspoonful flour
½ teaspoon salt
Melt butter in saucepan over slow fire. Stir flour slowly into melted butter, but do not allow mixture to brown. Gradually add the milk, stirring constantly until mixture thickens. Add salt and remove from fire. Mark the number of the item which is the second thing to be used in mixing the above recipe.
1 salt 2 flour 3 milk 4 butter ——99

100. To find the altitude of a rectangle subtract the square of the base from the square of the diagonal of the rectangle and extract the square root of this difference. Mark the letter which indicates in feet the altitude of a rectangle whose base is 6 feet and whose diagonal is 10 feet (Six squared is 36, 10 squared is 100, and 8 is the square root of 64.)
a 4 b 6 c 8 d 10 ——100

STOP 
NOW WAIT FOR FURTHER INSTRUCTIONS

Sec. E Score (number right) ........................................
TEST 2 — SECTION F

101. A preface is found in what part of a book?
   1 beginning  2 middle  3 end  __101

102. The introduction is found in what part of a book?
   1 end  2 middle  3 beginning  __102

103. The appendix is found in what part of a book?
   1 beginning  2 end  3 middle  __103

104. A glossary contains
   1 index  2 pictures  3 definitions  __104

105. The bibliography is found in what part of a book or chapter?
   1 end  2 middle  3 beginning  __105

106. Mark the letter of the page on which “Preparation for the Market” begins.
   a 6  b 35  c 57  d 19  __106

107. Mark the number of the chapter in which the material on page 29 will be found.
   1 Growth of Coffee  2 Preparation for the Market
   3 Coffee Ports  __107

✓ Look at the following and answer items 106 and 107.

Table of Contents

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The Demand for Coffee</td>
<td>1</td>
</tr>
<tr>
<td>2. Coffee Plantations</td>
<td>6</td>
</tr>
<tr>
<td>3. Growth of Coffee</td>
<td>19</td>
</tr>
<tr>
<td>4. Preparation for the Market</td>
<td>35</td>
</tr>
<tr>
<td>5. Coffee Ports</td>
<td>57</td>
</tr>
<tr>
<td>6. World’s Trade in Coffee</td>
<td>65</td>
</tr>
</tbody>
</table>

INDEX

Ukraine, p. 452.
United Kingdom: Agriculture, 344; commerce, 354-365; fisheries, 356, 372-74; manufacturing, 348-351; shipbuilding, 352; woolens, 369.
United States: map of, 46-47; agricultural regions, 32; cattle, 116-118; coal, 162-168; forests, 137-144; iron and steel, 178-183; territorial expansion, map of, 34; waterways, 199-207.
Utah: map of, 76; sugar-beet production, 76-81.

108. Mark the letter of the page on which information concerning the Ukraine will be found.
   a 344  b 76-81  c 452  d 369  __108

109. Mark the letter of the page on which information concerning ship-building in the United Kingdom will be found.
   a 199-207  b 344  c 352  d 452  __109

110. Mark the letter of the page on which the map showing territorial expansion of the United States will be found.
   a 46-47  b 178-183  c 137-144  d 34  __110
Foreign trade was the chief commercial activity of the American Colonies during the Colonial period. They shipped tobacco, furs, indigo, rice, naval stores, and lumber to Europe. They sent fish, lumber, agricultural products, and cattle to the West Indies.

The colonists obtained manufactured goods from European countries, chiefly from Great Britain, while the West Indies furnished them slaves, sugar, and gold.

During the period 1790 to 1820, European wars changed the nature of the foreign trade of the United States. It became to a large extent concerned with the reshipping to Europe of foreign products which American-owned vessels had gathered in the West Indies, South America, and the Orient.

The Civil War caused a temporary lull in the country's foreign trade. In 1860 more than two-thirds of American trade was carried in American ships; but by 1870, it had dropped to about one-half this amount. There was also a general downward trend of prices during the last quarter of the nineteenth century.

In 1947, the foreign trade of the United States was higher than any previous year. It amounted to over $14,000,000,000, an increase of 75 per cent over the previous peacetime record. Imports also reached a very high level during 1947, totaling nearly $6,000,000,000, an increase of 17 per cent above 1946.
The olive is a tree having oblong pointed leaves and small oval or egg-shaped berry-like fruit. This fruit turns from dull green to darker hues, often purplish in color, when ripened.

The olive is a native of the Mediterranean region. It was introduced into South America, Mexico, and California by Spanish settlers and Jesuit missionaries in the 17th century. It is also cultivated in California, South Carolina, Florida, and Mississippi.

Because of its high oil content, the fruit became a symbol, not only of peace among the Southern European nations of antiquity, but also of national wealth and domestic plenty. This was due to the fact that olive oil is a substitute for the butter and animal fats which are consumed by the races of the North.

A report showed that in one year, European and Asiatic olive-growing countries produced the following amounts of edible olive oil:

<table>
<thead>
<tr>
<th>Countries</th>
<th>Tons</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy</td>
<td>108,000</td>
<td>26.6</td>
</tr>
<tr>
<td>Spain</td>
<td>107,000</td>
<td>26.4</td>
</tr>
<tr>
<td>Greece</td>
<td>52,000</td>
<td>12.8</td>
</tr>
<tr>
<td>Tunis</td>
<td>46,000</td>
<td>11.3</td>
</tr>
<tr>
<td>Portugal</td>
<td>25,000</td>
<td>6.2</td>
</tr>
<tr>
<td>Turkey</td>
<td>22,000</td>
<td>5.4</td>
</tr>
<tr>
<td>Others</td>
<td>46,000</td>
<td>11.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>406,000</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Although the olive is valued principally for its oil and the many uses to which this oil may be put, the most common use of the fruit itself is its preparation in brine as a sort of pickle or condiment, which is often stuffed, but usually kept with the seed intact. Besides its use as a cooking fat, olive oil is used on salads, for packing sardines, and in medicines.

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Mark the number of each correct answer. You may look back to find the answers.
125. The olive was introduced into Mexico in the 17th century by

- Syrians
- Mexicans
- A religious group

126. The country producing the largest amount of olive oil in one year was

- Greece
- Italy
- Spain

127. About six per cent of the total amount of olive oil was produced in

- Portugal
- Syria
- Tunis

128. The Mediterranean countries regarded olive oil highly as a

- medicine
- pickle
- substitute for butter or fat

129. A common use of the fruit of the olive tree is its preparation as

- a lean meat substitute
- a pickle or condiment
- an emblem of peace

130. The best title for this story is

- Street Railways
- Modern Inventions
- Transportation

131. The first street cars in New York City were pulled by

- horses
- steam power
- electricity

132. The world’s first subway was ready for service in London in

- 1853
- 1863
- 1900

133. Modern transportation facilities challenge the railroad’s

- right to exist
- dependability
- supremacy as a common carrier

134. Most city transportation is handled by

- busses
- trucks
- street railways

135. When trackage will not pay, street railways

- use busses
- borrow money
- abandon the system

Mark the number of each correct answer. You may look back to find the answers.
The Electric Light

After great expense and nearly two years of work, Thomas A. Edison devised, in 1879, the first successful carbon-filament lamp in his experimental laboratory in Menlo Park, N.J. This lamp consisted of a thread of carbon in a sealed glass globe from which the air had been exhausted until only about a millionth part of the original air remained. Edison at first tried to make the carbon-filament in this vacuum by charring cotton thread, paper, wood, and many other materials. Bamboo fibre proved superior to other materials. Edison then secured specimens of every known variety.

Edison was now ready to give his new light to the world. He had a row of lamps hung from the trees at Menlo Park, and the thousands who came to see, marvelled when they found that the lamps could burn day and night for longer than a week. The lamps were small and finely made, and could be lighted or extinguished by simply pressing a button. Then, too, the cost of making them was slight. Edison had given the world a new light which was practical and useful.

Edison determined to make it possible for people to use his lamps in their homes by getting their electricity from a central station, so he organized a company and trained his own men to take charge of factories for making lamps and everything else needed, and to set up high-speed machines for a big output of electricity for the city of New York.

The development of the electric light brought the individual home owner into the same class as the wealthy man in the lighting of his home. It served as an added impulse to business, made the streets safer at night, and became a stepping stone to further and more modern electrical inventions.

Mark the number of each correct answer. You may look back to find the answers.

136. A filament is a
   1. glass globe  2. thread-like fibre  3. light   __136

137. An exhausted globe in this story is a
   1. vacuum  2. high-speed engine  3. broken glass tube __137
Study the examples below in order to see how the answer spaces should be marked to indicate the correct answers.

1. Steel is made from
   1 lead   2 iron   3 tin   4 copper   5 zinc
   The correct answer, iron, is number 2, so the second answer space has been blackened.
   You mark the correct answers for the remaining samples in the same way.

2. A horse always has
   6 rider   7 stable   8 shoes   9 hoofs   10 saddle

3. A quart is one fourth of a
   1 gallon   2 pint   3 bushel   4 barrel   5 keg

In taking this test, you are first to decide which answer is correct, and then blacken with a soft pencil the answer space which is numbered the same as your choice for the correct answer. Make your mark as long as the pair of lines, and move the pencil up and down firmly to make a heavy black line. If you change your mind, erase your first mark completely.
TEST 7. BEST ANSWER

Read each statement and mark the answer space which has the same number as the answer which you think is BEST.

SAMPLE. We should not put a burning match in the wastebasket because

1. Matches cost money. 2. We might need a match later. 3. It might go out. 4. It might start a fire.

1. The saying, "The proof of the pudding is in the eating," means

1. Puddings are fattening. 2. We can only tell what a thing is like by trying it. 3. Puddings are made to be eaten. 4. Puddings taste better than they look.

2. The moats surrounding medieval castles were most valuable as


3. The saying, "Make hay while the sun shines," means

1. We should not shirk our duties. 2. Hay is made in summer. 3. Make the most of your opportunities. 4. Hay should not be cut at night.

4. The saying, "Faint heart ne'er won fair lady," means

5. He who lacks courage to try accomplishes nothing. 6. Fair ladies faint easily. 7. Beautiful women like brave men. 8. A bad heart is a great handicap.

5. The saying, "A bad workman quarrels with his tools," means

1. A soft answer turneth away wrath. 2. A bad workman is usually quarrelsome. 3. Don't cry over spilt milk. 4. People often blame their failures on others.

6. The saying, "One swallow does not make a summer," means

5. Many birds add to the pleasures of summer. 6. Swallows return for summer. 7. A single sign is not sufficient proof. 8. You can't trust a swallow.

7. The saying, "As the twig is bent, so is the tree inclined," means

1. A bent tree can't be straightened. 2. Habits acquired early affect us later. 3. Twigs can be bent more easily than trees. 4. Like father, like son.

8. The saying, "All is not gold that glitters," means

5. Appearances are often misleading. 6. All metals glitter. 7. Don't trust a gold digger. 8. A good name is better than riches.

9. The saying, "Don't make a mountain out of a molehill," means

1. Moles can't make mountains. 2. Don't be discouraged over small difficulties. 3. We don't need mountains. 4. Don't attempt impossible things.

10. Freezing water bursts pipes because

5. The ice stops the flow of water. 6. Ice is heavier than water. 7. Cold makes the pipes weaker.

11. Merchants take yearly inventory because

1. It makes room for new stock. 2. It exposes dishonest employees. 3. It increases profits. 4. It aids in determining profits and losses.

12. The saying, "A stitch in time saves nine," means

5. One stitch will often do as well as more. 6. Virtue is its own reward. 7. Hardship may be prevented by a little care. 8. A little illness may be costly.

Score......
TEST 1. INFORMATION

Mark the answer space which has the same number as the word that makes the sentence TRUE.

SAMPLE. Our first President was
1 Adams 2 Washington 3 Lincoln 4 Jefferson 5 Monroe

1. The piccolo is used in
1 printing 2 weaving 3 mining 4 music 5 farming

2. Tweed is a kind of
6 drink 7 weed 8 sound 9 wood 10 cloth

3. Nicotine is a poison found in
1 tobacco 2 spiders 3 sumac 4 creosote 5 snakes

4. A typhoon is a
6 quake 7 disease 8 wind 9 financier 10 whirlpool

5. A peck is a fourth of a
1 pint 2 quart 3 gallon 4 bushel 5 barrel

6. Confucius founded a religion common among the
6 Persians 7 Indians 8 Chinese 9 Japanese 10 Egyptians

7. Chess is a kind of
1 nut 2 game 3 bug 4 cheese 5 cat

8. Sauerkraut is made from
6 cabbage 7 lettuce 8 celery 9 soybeans 10 cucumbers

9. Guernsey is a kind of
1 horse 2 chicken 3 dog 4 cow 5 rabbit

10. The turquoise is usually
6 colorless 7 brown 8 red 9 yellow 10 blue

11. "Treasure Island" tells about
1 Long John 2 Gulliver 3 Sindbad 4 Midas 5 Micawber

12. A gas commonly used in luminous signs is
6 oxygen 7 hydrogen 8 neon 9 photon 10 radium

13. Perjury is a term used in
1 pedagogy 2 theology 3 medicine 4 law 5 pediatrics

14. The optic nerve is for
6 hearing 7 tasting 8 feeling 9 smelling 10 seeing

15. A cameo is a kind of
1 robe 2 animal 3 jewel 4 flower 5 insect

16. The Parthenon was a
6 temple 7 school 8 gladiator 9 treaty 10 chariot

17. The guillotine causes
1 disease 2 death 3 fever 4 anemia 5 suffocation

18. The United States bought Florida from the
6 French 7 English 8 Mexicans 9 Spanish 10 Indians

19. Socrates was a
1 poet 2 playwright 3 philosopher 4 politician 5 scientist

20. An eight-sided figure is called a (an)
6 trapezium 7 octagon 8 scholium 9 octave 10 heptagon

21. The Franciscans in medieval times were
1 dancers 2 friars 3 vassals 4 misers 5 sailors

22. The ampere is a measure of
6 amplitude 7 electricity 8 weight 9 temperature 10 speed

23. "The Last of the Mohicans" was written by
1 Hawthorne 2 Defoe 3 Scott 4 Cooper 5 Irving

24. Inability to pay one's debts is called
6 poverty 7 insolvency 8 stinginess 9 economy 10 extravagance

25. A windlass is used for
1 boring 2 cutting 3 squeezing 4 sailing 5 lifting

Score......
TEST 6. OPPOSITES

Mark the answer space which has the same number as the word which is OPPOSITE, or most nearly opposite, in meaning to the beginning word of each line.

SAMPLE: north — 1 hot 2 east 3 west 4 down 5 south

1. together — 1 alternately 2 differently 3 apart 4 entirely 5 altogether
2. publicly — 6 prudently 7 singly 8 privately 9 stealthily 10 slyly
3. limited — 1 brief 2 endless 3 costly 4 unfinished 5 exempted
4. prohibit — 6 suffice 7 promise 8 provide 9 relegate 10 allow
5. hinder — 1 attack 2 attain 3 help 4 avoid 5 try
6. minimum — 6 maxim 7 maximum 8 large 9 surplus 10 best
7. brisk — 1 slow 2 warm 3 heavy 4 soft 5 slight
8. significant — 6 mistaken 7 simple 8 unfavorable 9 universal 10 meaningless
9. existent — 1 extended 2 narrow 3 vestigial 4 extinct 5 ordinary
10. kindle — 6 sprinkle 7 parch 8 irrigate 9 freeze 10 quench

Score...
### TEST 2. SYNONYMS

Mark the answer space which has the same number as the word which has the SAME or most nearly the same meaning as the beginning word of each line.

**ample. correct —** 1 neat 2 fair 3 right 4 poor 5 good

| 1. content — 1 cheerful 2 satisfied 3 well 4 willing 5 rested ..........1 |
| 2. gloomy — 6 angry 7 rainy 8 frightful 9 empty 10 dismal ..........2 |
| 3. convert — 1 bend 2 change 3 prove 4 place 5 invert ..........3 |
| 4. ripe — 6 juicy 7 red 8 full 9 good 10 mature ..........4 |
| 5. procure — 1 proffer 2 sustain 3 create 4 obtain 5 seek ..........5 |
| 6. float — 6 shock 7 inflate 8 blubber 9 bluster 10 ventilate .........6 |
| 7. fondle — 1 impress 2 found 3 caress 4 feed 5 confuse ..........7 |
| 8. curative — 6 bitter 7 recovery 8 remedy 9 doctor 10 director ..........8 |
| 9. chasm — 1 divide 2 convulsion 3 default 4 trap 5 abyss ..........9 |
| 10. compulsory — 6 irresistible 7 imperative 8 advisory 9 wise 10 optional ..........10 |
| 11. entice — 1 enthrall 2 offer 3 allure 4 flirt 5 pray ..........11 |
| 12. banish — 6 exile 7 condemn 8 disappear 9 revenge 10 forget ..........12 |
| 13. agile — 1 able 2 fragile 3 nimble 4 aerial 5 slender ..........13 |
| 14. divisible — 6 divorced 7 separable 8 separated 9 divisory 10 perceptible ..........14 |
| 15. sacred — 1 beloved 2 forbidden 3 hallowed 4 eternal 5 precious ..........15 |
| 16. adversary — 6 criminal 7 partner 8 instigator 9 opponent 10 adviser ..........16 |
| 17. dilemma — 1 debate 2 obstacle 3 vexation 4 possibility 5 predicament ..........17 |
| 18. arrogant — 6 wandering 7 unruly 8 ignorant 9 haughty 10 mistaken ..........18 |
| 19. cache — 1 hide 2 seal 3 buy 4 steal 5 sneak ..........19 |
| 20. amass — 6 worship 7 hoard 8 disperse 9 skimp 10 develop ..........20 |
| 21. bias — 1 prejudice 2 judgment 3 reason 4 argument 5 opinion ..........21 |
| 22. economy — 6 plenty 7 solvency 8 debility 9 frugality 10 poverty ..........22 |
| 23. abdicate — 1 relinquish 2 reform 3 vanish 4 dethrone 5 proclaim ..........23 |
| 24. caustic — 6 causative 7 tarnished 8 corrosive 9 flammable 10 flaky ..........24 |
| 25. cleft — 1 quake 2 qualm 3 palate 4 crate 5 chink ..........25 |

**Score**
TEST 5. ANALOGIES

Study the samples carefully.
Ear is to hear as eye is to
1 cry 2 glasses 3 spy 4 wink 5 see

Hat is to head as shoe is to
6 arm 7 leg 8 foot 9 fit 10 glove

DO THEM ALL LIKE THE SAMPLES.

1. Army is to general as navy is to
1 ensign 2 admiral 3 boatswain 4 pilot 5 major

2. Success is to joy as failure is to
6 work 7 happiness 8 poor 9 luck 10 sadness

3. 4 is to 36 as 6 is to
1 (99) 2 (54) 3 (27) 4 (26) 5 (25)

4. Tell is to told as speak is to
6 spank 7 scold 8 said 9 speaking 10 spoke

5. String is to kitten as rattle is to
1 shake 2 car 3 snake 4 baby 5 racket

6. Poison is to death as food is to
6 bird 7 life 8 bad 9 birth 10 eat

7. Lead is to heavy as cork is to
1 float 2 porous 3 light 4 bottle 5 stopper

8. Peach is to tree as cucumber is to
6 bush 7 ground 8 vine 9 pickle 10 garden

9. Past is to present as yesterday is to
1 future 2 memory 3 tomorrow 4 gone 5 today

10. b is to d as second is to
6 third 7 fourth 8 later 9 last 10 next

11. Bear is to hair as trout is to
1 water 2 fish 3 scales 4 swim 5 skin

12. Cry is to laugh as mourning is to
6 rejoicing 7 coffin 8 woe 9 praying 10 death

13. Bad is to worse as worse is to
1 poor 2 good 3 worst 4 better 5 best

14. Sextet is to six as octet is to
1 (24) 2 (112) 3 (144) 4 (200) 5 (1200)

15. 10 is to 100 as 12 is to
1 (24) 2 (112) 3 (144) 4 (200) 5 (1200)

16. Salmon is to fish as goose is to
6 duck 7 feather 8 feast 9 fowl 10 grouse

17. Round is to shape as large is to
1 small 2 height 3 length 4 heavy 5 size

18. Cello is to strings as clarinet is to
6 blow 7 brass 8 band 9 reed 10 plum

19. Brick is to clay as glass is to
1 sand 2 mud 3 salt 4 mica 5 water

20. Pro is to con as for is to
6 forever 7 against 8 forth 9 after 10 aft

21. Subject is to predicate as noun is to
1 verb 2 adjective 3 nominative 4 pronoun 5 adverb

22. Introduction is to conclusion as overture is to
6 music 7 prelude 8 opera 9 finale 10 intermission

23. 9/4 is to 3/4 as 18 is to
1 (6) 2 (8) 3 (9) 4 (12) 5 (36)

24. Bread is to mold as tree is to
6 bark 7 leaf 8 moss 9 seed 10 root

25. Suicide is to self as matricide is to
1 murder 2 matron 3 father 4 another 5 mother

Score
TEST 3. LOGICAL SELECTION

Mark the answer space which has the same number as the word which tells what the thing ALWAYS has or ALWAYS involves.

**SAMPLE.** A cat always has

| 1 kittens | 2 spots | 3 milk | 4 mouse | 5 hair |

| 1 | 2 | 3 | 4 | 5 |

1. A bird always has

| 1 nest | 2 eggs | 3 bones | 4 cage | 5 mate |

| 1 | 2 | 3 | 4 | 5 |

2. A pistol always has

| 6 smoke | 7 holster | 8 barrel | 9 bullet | 10 sights |

| 6 | 7 | 8 | 9 | 10 |

3. A magazine always has

| 1 advertisements | 2 print | 3 stories | 4 editorials | 5 pictures |

| 1 | 2 | 3 | 4 | 5 |

4. A dress always has

| 6 sleeves | 7 collar | 8 buttons | 9 belt | 10 fabric |

| 6 | 7 | 8 | 9 | 10 |

5. Conversation always involves

| 1 agreement | 2 questions | 3 persons | 4 wit | 5 formality |

| 1 | 2 | 3 | 4 | 5 |

6. A soldier always has

| 6 courage | 7 duty | 8 bayonet | 9 helmet | 10 tent |

| 6 | 7 | 8 | 9 | 10 |

7. An advertisement always has

| 1 purpose | 2 color | 3 novelty | 4 accuracy | 5 illustrations |

| 1 | 2 | 3 | 4 | 5 |

8. A circle always has

| 6 tangent | 7 perpendicular | 8 diagonal | 9 altitude | 10 radius |

| 6 | 7 | 8 | 9 | 10 |

9. A banquet always has

| 1 speeches | 2 favors | 3 flowers | 4 food | 5 music |

| 1 | 2 | 3 | 4 | 5 |

10. A liquid always has

| 6 taste | 7 transparency | 8 beauty | 9 odor | 10 weight |

| 6 | 7 | 8 | 9 | 10 |

---

**Additional Answers:**

1. Co-operation always involves

| 1 enthusiasm | 2 economy | 3 association | 4 friendship | 5 contention |

| 1 | 2 | 3 | 4 | 5 |

2. A parade always has

| 6 band | 7 horses | 8 floats | 9 display | 10 confetti |

| 6 | 7 | 8 | 9 | 10 |

3. A jury verdict always involves

| 1 guilt | 2 disgrace | 3 justice | 4 sentence | 5 decision |

| 1 | 2 | 3 | 4 | 5 |

4. A mistake always involves

| 6 error | 7 punishment | 8 regret | 9 correction | 10 carelessness |

| 6 | 7 | 8 | 9 | 10 |

5. A storm always involves

| 1 snow | 2 rain | 3 wind | 4 disturbance | 5 destruction |

| 1 | 2 | 3 | 4 | 5 |

6. A crisis always involves

| 6 grief | 7 panic | 8 uncertainty | 9 pain | 10 ruin |

| 6 | 7 | 8 | 9 | 10 |

7. Controversy always involves

| 1 settlement | 2 hatred | 3 enmity | 4 lawsuit | 5 disagreement |

| 1 | 2 | 3 | 4 | 5 |

8. A debtor always has

| 6 resentment | 7 obligation | 8 honesty | 9 property | 10 assets |

| 6 | 7 | 8 | 9 | 10 |

9. Obstacles always bring

| 1 obstinacy | 2 grief | 3 hindrance | 4 failure | 5 stimulation |

| 1 | 2 | 3 | 4 | 5 |

10. A restaurant always has

| 6 waiters | 7 utensils | 8 checks | 9 tables | 10 counter |

| 6 | 7 | 8 | 9 | 10 |

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1. Temperance always involves

| 1 moderation | 2 legislation | 3 digestion | 4 preaching | 5 laws |

| 1 | 2 | 3 | 4 | 5 |

2. Annexation always involves

| 6 division | 7 seizure | 8 dispute | 9 attachment | 10 defeat |

| 6 | 7 | 8 | 9 | 10 |

3. A revelation always involves

| 1 trickery | 2 disclosure | 3 mysticism | 4 revelry | 5 prophecy |

| 1 | 2 | 3 | 4 | 5 |

4. Priority always involves

| 6 precedence | 7 prominence | 8 recency | 9 skill | 10 seniority |

| 6 | 7 | 8 | 9 | 10 |

5. Procrastination always involves

| 1 laziness | 2 indecision | 3 indifference | 4 delay | 5 injustice |

| 1 | 2 | 3 | 4 | 5 |

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Score...
TEST 4. CLASSIFICATION

In each line below, four of the words belong together. Pick out the ONE WORD which does not belong with the others, and mark the answer space bearing its number.

1. dog 2 cat 3 horse 4 chicken 5 cow

6 hop 7 run 8 stand 9 skip 10 walk

1. 1 leaf 2 twig 3 bark 4 shade 5 root

6 baboon 7 ape 8 gorilla 9 monkey 10 gazelle

3. 1 loud 2 near 3 close 4 distant 5 far

4. 6 gold 7 silver 8 coal 9 copper 10 nickel

5. 1 judge 2 witness 3 attorney 4 prison 5 defendant

6. lawyer 7 doctor 8 janitor 9 preacher 10 teacher

7. 1 thermometer 2 automobile 3 barometer 4 clock 5 speedometer

8. 6 cold 7 sour 8 spicy 9 rancid 10 salty

9. 1 Socialist 2 Communist 3 Democrat 4 Methodist 5 Republican

10. 6 lawyer 7 doctor 8 janitor 9 preacher 10 teacher

11. 1 strong 2 short 3 narrow 4 slender 5 broad

12. 6 castle 7 bungalow 8 barn 9 mansion 10 cottage

13. 1 cricket 2 beetle 3 ant 4 gopher 5 wasp

14. 6 Emperor 7 King 8 Sultan 9 Czar 10 Priest

15. 1 cat 2 cow 3 wolf 4 pig 5 dog

16. 6 hammer 7 spike 8 tack 9 bolt 10 rivet

17. 1 drama 2 author 3 essay 4 novel 5 poem

18. 6 unselfish 7 benevolent 8 hospitable 9 penurious 10 charitable

19. 1 pencil 2 stylus 3 blackboard 4 chalk 5 crayon

20. 6 merge 7 rend 8 join 9 unite 10 connect

21. 1 monsoon 2 earthquake 3 squall 4 tornado 5 hurricane

22. 6 poplar 7 pine 8 elm 9 maple 10 oak

23. 1 carefulness 2 forethought 3 industry 4 indolence 5 thrift

24. 6 then 7 here 8 today 9 anon 10 now

25. 1 hemp 2 jute 3 flax 4 cotton 5 wool

Score