

Pittsburg State University

Pittsburg State University Digital Commons

Electronic Theses & Dissertations

7-1933

A COMPARISON OF TWO METHODS OF APPROACH TO THE STUDY OF BOOKKEEPING

Charles Wilson Piatt

Kansas State Teachers College of Pittsburg

Follow this and additional works at: <https://digitalcommons.pittstate.edu/etd>



Part of the [Accounting Commons](#)

Recommended Citation

Piatt, Charles Wilson, "A COMPARISON OF TWO METHODS OF APPROACH TO THE STUDY OF BOOKKEEPING" (1933). *Electronic Theses & Dissertations*. 278.

<https://digitalcommons.pittstate.edu/etd/278>

This Thesis is brought to you for free and open access by Pittsburg State University Digital Commons. It has been accepted for inclusion in Electronic Theses & Dissertations by an authorized administrator of Pittsburg State University Digital Commons. For more information, please contact digitalcommons@pittstate.edu.

A COMPARISON OF TWO METHODS OF APPROACH
TO THE STUDY OF BOOKKEEPING

A Thesis Submitted to the Graduate Division in
Partial Fulfilment of the Requirements for the Degree of
Master of Science

PORTER LIBRARY

By

Charles Wilson Piatt

02855186

KANSAS STATE TEACHERS COLLEGE

Pittsburg, Kansas
July, 1933

WITHDRAWN

ACKNOWLEDGEMENT

The writer is indebted to Dr. Ralph A. Fritz, under whose supervision the study has been carried on, for his helpful suggestions and criticisms in the writing of this thesis; also to my wife, Eva Piatt, for her help in typing the manuscript.

CONTENTS

	Page
LIST OF TABLES	iv
LIST OF FIGURES	v
CHAPTER	
I. INTRODUCTION	1
Origin of the Problem	1
Purpose of This Study	3
II. METHOD	5
Choosing of Approaches	5
Classes Used	5
Measuring the Pupils' Ability	6
Pairing the Pupils	8
Measuring the Pupils' Bookkeeping Achievement	10
III. RESULTS	11
Comparison of the Two Groups as	
Whole Groups	11
I. Q.	12
General Achievement on English and Mathematics	12
Teachers' Marks	12
Achievement in Bookkeeping	12
Comparison of Two Groups as Paired ...	17
I. Q.	17
General Achievement on English and Mathematics	17
Teachers' Marks	17
Achievement in Bookkeeping	17
Results Shown by Percentile Curves ...	21
Effect of Junior Business Training ...	31
Influence of Latin and Geometry	33
IV. SUMMARY AND GENERAL CONCLUSIONS	37
Summary of Findings	37
Conclusions	38
Recommendations	39
APPENDIX	40
BIBLIOGRAPHY	51

LIST OF TABLES

<u>Table</u>	<u>Page</u>
I. Measures of the Ability and Achievement for Each of the Thirty-One Pupils of the Account Group	12
II. Measures of the Ability and Achievement for Each of the Fifty-Eight Pupils of the Two Journal Classes	14
III. Measures Used in Pairing the Sixty-Two Pupils	17
IV. Measures of the Bookkeeping Achievement of the Sixty-Two Pupils in the Paired Groups	20
V. Measures Showing the Ability and Bookkeeping Achievement of the Eight Pupils Who Had Had Junior Business Training and Eight Other Pupils of Equivalent Ability	32
VI. Measures Showing Ability and Achievement in Bookkeeping of the Five Pupils Who Were Taking Latin and Five Other Pupils of Equivalent Ability	34
VII. Measures Showing Ability and Achievement in Bookkeeping of the Four Pupils Who Were Taking Geometry and Four Other Pupils of Equivalent Ability	35
VIII. Measures of the General Ability and Bookkeeping Achievement for the Eighty-Nine Participants in This Study	41

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1. Percentile Curves of Scores Made on Elwell-Fowlkes Bookkeeping Test by the Two Paired Groups	22
2. Percentile Curves of Scores Made on Piatt Bookkeeping Theory Test by the Two Paired Groups	26
3. Percentile Curves of Scores Made on Piatt Bookkeeping Practice Test by the Two Paired Groups	28
4. Percentile Curves of Sum of Percentile Ranks from Scores Made by the Two Paired Groups on the Three Bookkeeping Tests	29

CHAPTER I

INTRODUCTION

Origin of the Problem

In the teaching of bookkeeping there are four methods by which the subject may be approached. These methods are usually spoken of as the journal approach, the account approach, the balance sheet approach, and the equation approach. Since the first two of these are the only ones to be considered in this study, our discussion will be limited to those two.

There are two basic books used in bookkeeping, the journal and the ledger. The journal is sometimes referred to as the book of "original" entry, because in common practice, the first entry of a business transaction is recorded in that book. The ledger is sometimes referred to as the book of "final" entry because the transactions which have already been recorded in the journal are periodically transferred to the ledger, a practice spoken of as "posting". The ledger is also sometimes referred to as the book of "accounts".

The preceding paragraph is introductory to our explanation of the terms "journal approach" and "account approach". The journal approach method takes up the study of the journal first and the account method takes up the study of the ledger first. By the journal approach, the pupil is first introduced

to the idea of the business transaction. He is shown how the business transaction involves two parties, the giver and the receiver; or two things, the value received and the value parted with. He becomes familiar with the terms debit, referring to the receiver or the thing received, and credit, referring to the giver or the thing given. He then learns the mechanics of recording transactions in journal form. After some time, when he has become familiar with many sorts of business transactions and the recording of them in journal form, he takes up the study of transferring the record of transactions from the journal to the ledger, which has already been referred to as "posting".

By the ledger approach the pupil begins with the study of accounts. He is shown how one account represents the idea of how much cash has been received or paid during a certain time, and how much cash is on hand; how much merchandise has been sold to John Smith, how much he has paid, and how much he still owes; how much expense has been incurred during a period, etc. He gets a broad idea of business transactions as groups, rather than the narrow idea of single business transactions. After the pupil has become familiar with different accounts, such as merchandise, cash, expense, equipment, personal accounts, etc., he is introduced to the single transactions, and the recording of them in journal form, and posting.

Probably no phase of the teaching of bookkeeping has

been so much discussed by the profession as has the approach. Advocates of the use of the journal approach have argued that it is chronological; because transactions are recorded in the journal at the time the transactions are made, therefore it is also logical. Adherents of the account approach say that that approach is the logical one since the history of bookkeeping shows that the ledger, which is the basis of the account approach, antedates the journal. Those favoring the journal approach also point to the fact that by this method it is very easy to present units, while those favoring the account approach say that that approach fits more closely with the experiences of the pupil. Various other arguments are given, pro and con, by the two opposing groups, but we feel that those already mentioned will be sufficient to point out something of the inception of this study.

Purpose of This Study

In the "Origin of our problem" was mentioned the fact of the great amount of discussion concerning the different approaches to the study of bookkeeping. For a long time the writer has had a desire to have some evidence, other than his own experience and that of other bookkeeping teachers, as to the comparative values of the different approaches. Up to the beginning of this study, about two years ago, the writer had never read nor heard of any

attempt to show, by experimentation, the advantage of one approach over another, nor has he been able to discover since the beginning of the study that any such attempt has been made. If any one approach is really better than the others, the fact ought to influence teachers in their method of presentation of the subject, and also have some bearing upon the arrangement of the presentation of the subject matter in text books. It was with these purposes in mind that the writer began this study, and whether or not any very substantial evidence as to any difference in the values of the methods studied is shown, we trust that it may at least be a start toward more general experimentation along this line.

CHAPTER II

METHOD

Choosing of Approaches

In Chapter I the four generally recognized approaches to the study of bookkeeping were mentioned. Since it would not be feasible to make a comparison in a single study of more than two of these approaches, a study of the relative achievement secured by the journal approach and that secured by the account approach only is made. One reason for choosing these two approaches was the fact that the text book used in the writer's classes is better adapted in its arrangement to the presentation of bookkeeping by these two approaches than by the other two approaches. A second reason was that the writer believes these two approaches to be better adapted to tenth grade pupils than are the other methods.

Classes Used

The classes used for this study were three tenth grade bookkeeping classes in the senior high school at Parsons, Kansas.

Since these classes were not limited to tenth grade pupils, they contained a few juniors and seniors. Some of the pupils were eliminated from the study on account of frequent absences so that in the final number there were

sixty girls and nineteen boys from the tenth grade, two girls and no boys from the eleventh grade, and two girls and six boys from the twelfth grade, making a total of eighty-nine pupils.

The length of period for each class was one hour. The classes met five days each week. One class met at 8:25 a. m., another at 9:30 a. m., and the other at 12:50 p. m. All classes were taught by the writer. Since the class which met at 9:30 had more pupils than either of the other classes it was decided to teach that class by one of the methods and the other two classes by the other method. By this plan more cases would be available for comparison by matched groups. The class at 9:30 was taught by the account approach and will hereafter be referred to as the Account class or Account group, and the classes meeting at 8:25 and 12:50 were taught by the journal approach and will hereafter be referred to as the Journal classes or the Journal group.

Measuring the Pupils' Ability

In order to compare the achievement in bookkeeping of the two groups when each group was taught by a different method of approach, it seemed best to get a measure of the two groups both as to mental ability and as to achievement probability. By using more than one measure a more accurate rating of ability would be given. The following measures were chosen.

Mental ability.---For determining mental ability Terman's Group Test of Mental Ability, Form A, was used.

Achievement probability.---For determining the achievement probability the New Stanford Achievement Test, Advanced Examination, Form V, was used. Since, in our opinion, achievement in bookkeeping will depend more upon a knowledge of English and of mathematics than of the other subjects measured by the New Stanford Achievement Test, those two sections only of the above tests were considered in determining the achievement probabilities. A copy of each of the above tests is included in the appendix.

Teachers' marks.---Studies have shown that there is a positive correlation between teachers' marks and other measures of achievement, therefore, this additional means was used for comparing the probable achievement of the two groups. For this purpose teachers' marks for both semesters of the preceding year were considered, allowing the following values for the marks given: A, 5; B, 4; C, 3; D, 2; E, 1. As an illustration of the method, if a pupil received a grade of "A" in English for both semesters he was given 10 points; if he received a grade of "A" for the first semester and "B" for the second semester, he was given 9 points; if he received a grade of "C" for the first semester and "B" for the second semester, he was given a score of 7; etc.

The marks were limited to the subjects of English,

algebra, and civics, for the tenth grade pupils, since most of the other subjects were non-solid subjects. In the case of juniors and seniors marks for solid subjects similar to those above were used.

Pairing the Pupils

Since it was very probable that the two groups would differ both as to average mental ability and achievement probability it was decided to get a measure of the two groups in two different ways. In the first place to measure all the pupils of each group for mental ability and achievement probability so that later the achievement in bookkeeping of the fifty-eight pupils in the Journal group might be compared with the achievement in bookkeeping of the thirty-one pupils in the Account group on the basis of those measures. This comparison will be referred to hereafter as comparison "by whole groups".

Secondly, it was planned to choose pupils from the Journal group who were equal in mental ability and achievement probability to pupils in the Account group and pair them with those pupils so that later a comparison of the bookkeeping achievement of the mates in each pair might be made. This comparison will be referred to hereafter as comparison "by paired groups".

Since the number of participants was limited, there being but thirty-one in the Account class and fifty-eight

in the Journal classes, it was decided not to make any eliminations from the Account class, thus making thirty-one pairs of equal ability, based on three measures, I. Q., total score on English and mathematics, and teachers' marks.

It was also thought desirable to pair by sex and by grades but it was found that this would not be feasible in all pairs if the measures of ability were to be kept equalized. In the final pairings, however, it was possible to have the same number of boys in each group. There were three seniors and two juniors in the Account group while in the Journal group there were four seniors and no juniors.

When it came to the actual pairing of the two groups it was found that because of the small number of participants it would not be possible to pair pupils closely enough by all measures so that a later comparison of the bookkeeping achievement of each pair would seem reliable. However, it was found that they could be paired closely enough to make two groups equal in ability as paired groups, so that a later comparison in bookkeeping achievement of the two paired groups might seem reliable. This gave two groups equal in numbers and apparently equal in mental ability and achievement probability. These two groups will be hereafter referred to as the "Account paired group" and the "Journal paired group" to distinguish them from the Account class and the Journal classes which refer to the groups as wholes. The pairing of the groups is shown in Table III in the next chapter.

Measuring the Pupils' Bookkeeping Achievement

For measuring the bookkeeping achievement of the participants in this study two measures were used, one for knowledge of theory and the other for practice ability.

The Elwell-Fowlkes Bookkeeping Test, Form 1 A, was used to measure knowledge of theory. Since this test is rather short (a total of only one hundred points) the writer made up an additional theory test of one hundred points to supplement the Elwell-Fowlkes Test. This test will be referred to hereafter as the Piatt theory test.

To measure the practice achievement the writer made up a test including all the principles of practice that had been studied up to the time of testing. It contained a total of one hundred points. It will be referred to hereafter as the Piatt practice test. A copy of each of the above tests is included in the appendix.

CHAPTER III

RESULTS

As was stated in Chapter I the purpose of this study is to show by experimentation the relative values, with respect to achievement, of two methods of approach to the study of bookkeeping. In the preceding chapter the two ways in which these relative values are to be shown were discussed: first, by a comparison of the bookkeeping achievement of two groups of unmatched ability; and second, by a comparison of the bookkeeping achievement of two groups whose ability had been matched through a method of pairing. The results from the first plan of comparison are shown in Tables I and II, and from the second plan in Tables III and IV.

Table I shows the measures of general ability, achievement probability, and the sum of the percentile ranks on bookkeeping achievement for the thirty-one pupils in the Account class. Further details of these measures are given in Table VIII of the Appendix. The numbers of the pupils were arranged in order of the size of their I. Q's. The English and mathematics achievement score is the sum of the scores made on these two sections of the test used for measuring achievement probability. The score on teachers' marks is explained on page 7 of Chapter II. The sum of the percentile ranks on bookkeeping achievement is the sum of

TABLE I

Measures of the Ability and Achievement for Each
of the Thirty-One Pupils of the Account Group

<u>Number of Pupil</u>	<u>I. Q.</u>	<u>Eng. and Math. Ach. Score</u>	<u>Richs. Marks</u>	<u>Sum of Pct. Ranks on Bldg. Ach.</u>
3	126	443	22	256
4	123	350	24	224
14	109	436	27	278
22	106	405	20	165
23	105	419	22	137
24	105	405	23	283
25	106	451	25	275
26	105	433	20	240
28	104	388	15	111
29	104	440	25	212
33	103	438	24	258
34	103	435	29	225
36	102	385	17	203
37	102	384	23	213
38	102	380	20	139
46	98	432	20	216
47	98	396	21	195
52	97	408	20	198
54	96	397	15	147
58	95	345	25	102
59	95	404	19	105
61	94	389	20	124
64	93	558	14	105
65	93	408	17	59
67	92	362	22	225
70	90	379	19	219
71	90	305	17	50
75	89	336	15	127
80	85	324	18	81
83	82	354	14	43
84	82	328	15	14
Total	3073	12197	627	5229
Average	99.13	393	20.23	168.68

the percentile ranks on scores made on each of the three tests used to measure bookkeeping achievement. The raw scores from which these percentile ranks were determined are shown in Table VIII in the Appendix. The following formula was used for determining these percentile ranks:

$$P. R. = \frac{2(\text{absolute rank} - 1)}{2N}$$

To illustrate: if there are 89 scores made on a test the absolute rank of the pupil making the highest score would be 89, providing of course that no other pupil made the same score, and "N", which stands for the number of scores, would be 89.

Substituting these values in the formula we have:

$$\text{percentile rank} = \frac{2(89 - 1)}{2(89)}$$

percentile rank = 99.

Attention is called here to the fact that the sum of the percentile ranks as given in Tables I and II do not agree with those as given in Table IV. This is accounted for by the fact that in Tables I and II a total of 89 pupils are considered while in Table IV a total of only 62 are considered. This gives "N" different values in the percentile rank formula in the two cases.

Table I shows the following averages for items included in the table:

I. Q.....	99.13
Gross scores, Eng. and Math. ach'vt.....	393.
Teachers' marks.....	20.23
Sum of perc. ranks, bookkeeping ach'vt.....	168.68

TABLE II

Measures of the Ability and Achievement for Each of the
Fifty-Eight Pupils of the Two Journal Classes

<u>Number of Pupil</u>	<u>I. Q.</u>	<u>Eng. and Math. Ach. Score</u>	<u>Trchs. Marks</u>	<u>Sum of Pot. Ranks on Bkgs. Ach.</u>
1	126	494	30	292
2	126	466	30	283
5	121	436	24	238
6	119	428	28	281
7	117	444	28	254
8	117	455	25	163
9	116	466	25	271
10	113	379	17	61
11	110	435	24	219
12	109	444	20	88
13	109	442	23	202
15	107	415	25	120
16	107	443	22	155
17	106	413	27	267
18	106	379	23	92
19	106	427	14	119
20	106	360	18	56
21	106	388	21	146
27	104	411	15	207
30	103	424	17	103
31	103	429	25	257
32	103	396	26	205
35	102	399	26	220
39	100	382	18	149
40	99	403	20	74
41	99	367	22	65
42	99	430	24	249
43	98	424	27	251
44	98	387	13	67
45	98	353	15	103
48	98	351	13	108
49	97	411	17	147
50	97	439	27	191
51	97	382	20	97
53	96	362	17	97

TABLE II (Continued)

<u>Number of Pupil</u>	<u>I. Q.</u>	<u>Eng. and Math. Ach. Score</u>	<u>T'chs. Marks</u>	<u>Sum of Pet. Ranks on Bkkg. Ach.</u>
55	96	355	15	57
56	96	354	14	126
57	95	400	19	140
60	94	391	13	96
62	93	354	18	86
63	93	370	16	83
66	92	385	20	189
68	91	382	20	146
69	90	336	22	169
72	89	378	14	14
73	89	339	14	86
74	89	327	15	34
76	88	407	15	185
77	88	389	13	208
78	87	335	18	19
79	85	323	18	55
81	84	322	15	18
82	83	355	14	46
85	80	320	17	44
86	80	303	16	30
87	80	285	15	34
88	80	309	16	123
89	73	307	14	98
Total	5735	22480	1147	7983
Average	98.86	388	19.78	137.64

These average results are shown at the conclusion of Table II also, where they are compared with average results from the Journal classes shown in that table.

Following are the results shown by Table II, with a comparison of these results with similar results from Table I:

	<u>Journal Classes</u>	<u>Account Classes</u>
I. Q.....	98.86	99.13
Gross scores, Eng. and Math. ach. 338.		393.
Teachers' marks.....	19.78	20.23
Sum of perc. ranks, Bkkg. ach...	137.64	168.68

By comparing these average results shown in Tables I and II it appears that the Account class exceeds the two Journal classes in: I. Q., .27 of one point; English and mathematics, 5 points, or 1.3 per cent; teachers' marks, .45 of one point, or 2.3 per cent; and in sum of percentile ranks on bookkeeping achievement, 31.04 points, or 22.5 per cent.

These results seem to show that the Account class has a slightly greater mental ability and a greater general achievement probability than the two Journal classes, but that the Account class is considerably the better in bookkeeping achievement. This is partial evidence that the account approach is superior to the journal approach for the writer.

Table III is so arranged that a pupil in one group is located on the same horizontal line with a pupil of approximately equal general ability and achievement

TABLE III

Measures Used in Pairing the Sixty-Two Pupils

<u>Account Paired Group</u>				<u>Journal Paired Group</u>				
<u>No. of Pupil</u>	<u>I.Q.</u>	<u>Eng. and Math. Ach. Score</u>	<u>Tchrs. Marks</u>	<u>Pair No.</u>	<u>No. of Pupil</u>	<u>I.Q.</u>	<u>Eng. and Math. Ach. Score</u>	<u>Tchrs. Marks</u>
3	126	443	22	1	5	121	436	24
4	123	450	24	2	2	126	466	30
14	109	436	27	3	11	110	435	24
22	106	405	20	4	19	106	427	14
23	105	419	22	5	17	106	413	27
24	105	405	23	6	15	107	415	25
26	105	433	20	7	16	107	443	22
25	105	451	25	8	12	109	444	20
28	104	393	15	9	20	105	360	18
29	104	440	25	10	27	104	411	15
33	103	438	24	11	31	103	429	25
34	103	435	29	12	30	103	424	17
36	102	385	17	13	35	102	399	26
37	102	384	23	14	32	103	396	26
38	102	380	20	15	39	100	382	18
46	98	432	20	16	50	97	439	27
47	98	396	21	17	44	98	387	13
52	97	408	20	18	43	98	424	27
54	96	397	15	19	57	95	400	19
58	95	345	25	20	53	96	362	17
59	95	404	19	21	49	97	411	17
61	94	389	20	22	66	92	385	20
64	93	358	14	23	62	93	354	18
65	93	408	17	24	60	94	391	18
67	92	362	22	25	63	93	370	16
70	90	379	19	26	77	88	388	18
71	90	305	17	27	74	89	327	15
75	89	336	15	28	78	87	335	18
80	85	324	18	29	81	84	322	15
83	82	334	14	30	85	80	320	17
84	82	328	15	31	88	80	309	16
Total	3073	12197	627		3073	12204	622	

probability in the other group. For example, pupil number 5 in the Journal paired group was paired on a basis of the above measures with pupil number 3 in the Account paired group, pupil number 4 in the Account paired group with pupil number 2 in the Journal paired group, etc.

A comparison of totals of columns in this table shows that the total I. Q.'s of all pupils in the Journal paired group is equal to the total I. Q.'s of all pupils in the Account paired group; that total scores on English and mathematics achievement of the Journal paired group is a few points higher than the similar total for the Account paired group; and that total teachers' marks of the Journal paired group is a few points lower than the similar total for the Account paired group.

An examination of the table shows the following facts: first, the greatest variation in I. Q. between mates is in pair number one where a variation of 5 points occurs. The average variation in this measure is 1.4 points. Second, the greatest variation in scores on English and mathematics achievement between mates is in pair number ten where a variation of 29 points occurs. The average variation in this measure is 11 points. Third, the greatest variation in teachers' marks between mates is in pair number twelve where a variation of 12 points occurs. The average variation in this measure is 4 points.

This analysis of Table III seems to show that the two

paired groups are well matched in total general ability and total achievement in English and mathematics.

Before proceeding further it may be well to emphasize that the two groups represented in the paired group comparison are very similar in ability. They were taught by the same teacher and in the same room. The class periods were the same length and all classes met five days in the week. The time of meeting of the classes could not be controlled, but that factor probably did not affect the results. All participants were American born and white. Twenty-nine per cent of the Account class were boys and twenty-eight per cent of the Journal classes were boys. The only known variable was the different methods of approach by which the classes were taught.

Table IV gives the measures of bookkeeping achievement for each of the sixty-two pupils in the paired groups. The two pupils of one pair are on the same horizontal line and the table is read in this manner:

Pupil number two in the Account paired group scored 82 on the Elwell-Fowlkes Test, 90 on the Piatt theory test, 88 on the Piatt practice test, and his sum of the percentile ranks on the three tests was 252. His mate, pupil number five in the Journal paired group, scored 66 on the Elwell-Fowlkes Test, 84 on the Piatt theory test, 94 on the Piatt practice test, and his sum of the percentile ranks on the three tests was 249.

TABLE IV

Measure of the Bookkeeping Achievement of the
Sixty-Two Pupils in the Paired Groups

Account Paired Group					Journal Paired Group				
No. of Pupil	E-F Bkkg. Test Score	Platt Th'ry Test Score	Platt Prac. Test Score	Sum Pot. Ranks Bkkg. Achv.	No. of Pupil	E-F Bkkg. Test Score	Platt Th'ry Test Score	Platt Prac. Test Score	Sum Pot. Ranks Bkkg. Achv.
3	82	90	88	252	5	66	84	94	249
4	69	78	89	216	8	91	84	100	282
14	79	84	100	276	11	63	80	94	212
22	48	76	83	147	19	60	74	56	109
23	60	68	76	121	17	75	82	99	265
24	86	90	98	284	15	61	60	83	105
26	74	86	87	232	16	63	64	89	142
25	86	84	98	273	12	55	62	72	77
28	58	68	64	98	20	53	52	67	50
29	77	76	82	197	27	61	76	95	197
33	70	86	95	253	31	74	80	98	256
34	66	76	95	217	30	62	64	64	92
36	63	64	84	189	35	68	72	95	207
37	66	78	88	203	32	65	78	87	194
38	65	64	78	124	39	59	68	85	134
46	65	78	91	207	50	68	66	94	182
47	56	78	94	184	44	48	66	60	57
52	63	74	93	186	43	72	78	98	246
54	64	66	79	132	57	53	66	92	128
58	53	66	74	88	53	52	68	66	85
59	54	74	57	96	49	51	72	88	130
61	49	72	78	104	66	69	70	85	174
64	64	60	68	99	62	54	64	68	78
65	52	64	54	48	60	50	66	75	83
67	78	74	89	214	63	44	56	86	70
70	73	76	88	208	77	69	72	90	196
71	58	52	52	42	74	43	62	51	27
75	59	64	84	112	78	42	56	47	14
80	38	72	62	70	81	38	54	57	16
83	49	56	61	37	85	41	60	65	39
84	29	52	58	13	88	57	68	74	107
Total 1963 2266 2487 4922					1827 2124 2474 4203				
Aver. 63.23 73.10 80.23 158.78					58.94 68.52 79.81 135.48				

Table IV shows the averages for each item included in the table. Below is a comparison of the average achievement of the two groups on each measure.

	<u>Journal Group</u>	<u>Account Group</u>
Elwell-Fowlkes Bookkeeping Test Scores	58.94	63.23
Platt Bookkeeping theory test scores	68.52	73.10
Platt Bookkeeping practice test scores	79.81	80.23
Sum of percentile ranks, bkkg. achv.	135.48	156.78

By comparing the average results of the two groups it is seen that the Account paired group exceeded the Journal paired group in the averages for all four measures: on Elwell-Fowlkes Test, 4.29 points or 7.3 per cent; on Platt theory test, 4.58 points or 6.7 per cent; on Platt practice test, .42 of one point or .5 per cent; and on the sum of the percentile ranks on bookkeeping achievement, 23.3 points or 17.2 per cent.

Results Shown by Percentile Curves

On the next few pages the above comparisons are shown in the form of percentile curves.

Figure 1 on page 22 shows by percentile curves the final bookkeeping achievement of the two paired groups as measured by the Elwell-Fowlkes Bookkeeping Test. The figures at the left of the perpendicular columns represent intervals of scores made by the pupils. For example, the interval between 57.5 and 62.5 includes the five scores between those limits. (Half scores are used for statistical convenience.)

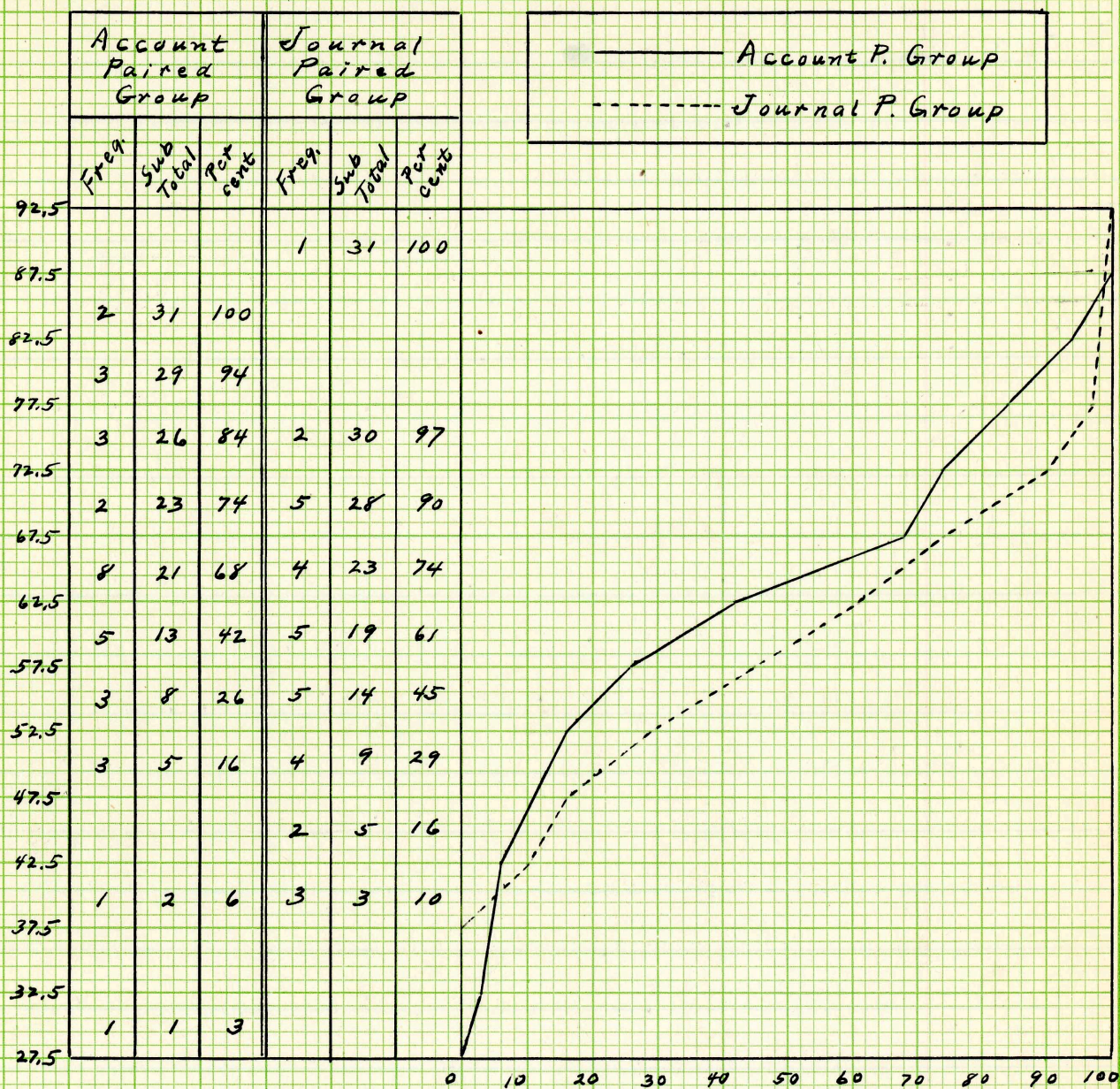


Fig. 1 Percentile Curves of Scores Made on Elwell-Kovikos Bookkeeping Test by the Two Paired Groups.

The figures at the bottom of the page represent percentages of pupils making scores up to a certain limit. The first three perpendicular columns give information concerning the Account paired group and the last three columns information concerning the Journal paired group. The first column in each division, headed "frequency", represents the frequency of scores within intervals. For example, in the frequency column of the Account paired group, reading from the bottom, there was one pupil with a score between 27.5 and 32.5, none with a score between 32.5 and 37.5, one between 37.5 and 42.5, etc.

The second column, headed "sub-total", is a cumulative frequency column. For example, in the sub-total column of the Account paired group, reading from the bottom, one pupil scored below 37.5, two below 42.5, five below 52.5, etc.

The third column, headed "per cent", represents the approximate percentage of pupils making certain scores or less. For example, in the per cent column of the Account paired group, reading from the bottom, approximately 3 per cent of the pupils made a score of 42.5 or less, 16 per cent a score of 52.5 or less, etc.

Points have been located where the perpendicular lines corresponding to the per cent of pupils making scores within certain score intervals meet the horizontal lines forming the upper boundary of the corresponding

score intervals, and these points are connected with lines. This has been done for both paired groups, giving line representations of the percentile distribution of scores.

The continuous line represents the distribution for the Account paired group and the broken line the distribution for the Journal paired group. These lines are called percentile curves. The 50 per cent horizontal line meets the Account paired group curve within the 62.5 - 67.5 score interval at approximately 64.5. This score is called the approximate median or the 50th percentile. It is the score above which approximately 50 per cent of the scores lie and below which approximately 50 per cent of the scores lie. Following the same process for the Journal paired group it is found that the approximate median for that group is 59.5 or that approximately 50 per cent of the pupils in this group made a score above 59.5 and approximately 50 per cent a score below 59.5.

The 75 per cent perpendicular line meets the Account paired group curve at a point representing a score of approximately 73. This point is called the upper quartile or the 75th percentile. It represents the point below which approximately 75 per cent of the scores of this group lie. The 25 per cent perpendicular line meets the Account paired group curve at a point representing a score of approximately 56. This point is called the lower quartile or the 25th percentile. It represents the point below which approximately 25 per cent of the

scores of this group lie. The middle 50 per cent of the scores lie between these points. The difference between the scores 73 and 56 is 17. This indicates that the middle 50 per cent of the scores range between 56 and 73 or a range of 17 score points.

Following out this process for the Journal paired group it is seen that the upper quartile is approximately 68 and the lower quartile 50, which makes a range of 18 score points for the middle 50 per cent of the Journal paired group. The two curves show that between the two points represented by the 6th percentile and the 98th percentile the Account paired group consistently scored higher than the Journal paired group. It also shows that the highest score was made by the Journal paired group and the lowest score by the Account paired group.

Figure 2 gives percentile curves of the final bookkeeping achievement of the two paired groups as measured by the Piatt bookkeeping theory test. The following facts are indicated: the median of the Account paired group is approximately 74 and of the Journal paired group approximately 67.5.

The upper quartile of the Account paired group is approximately 79 and the lower quartile 67, making a range of 12 score points for the middle 50 per cent of scores. The corresponding quartiles for the Journal paired group are 76 and 62, making a range of 14 points.

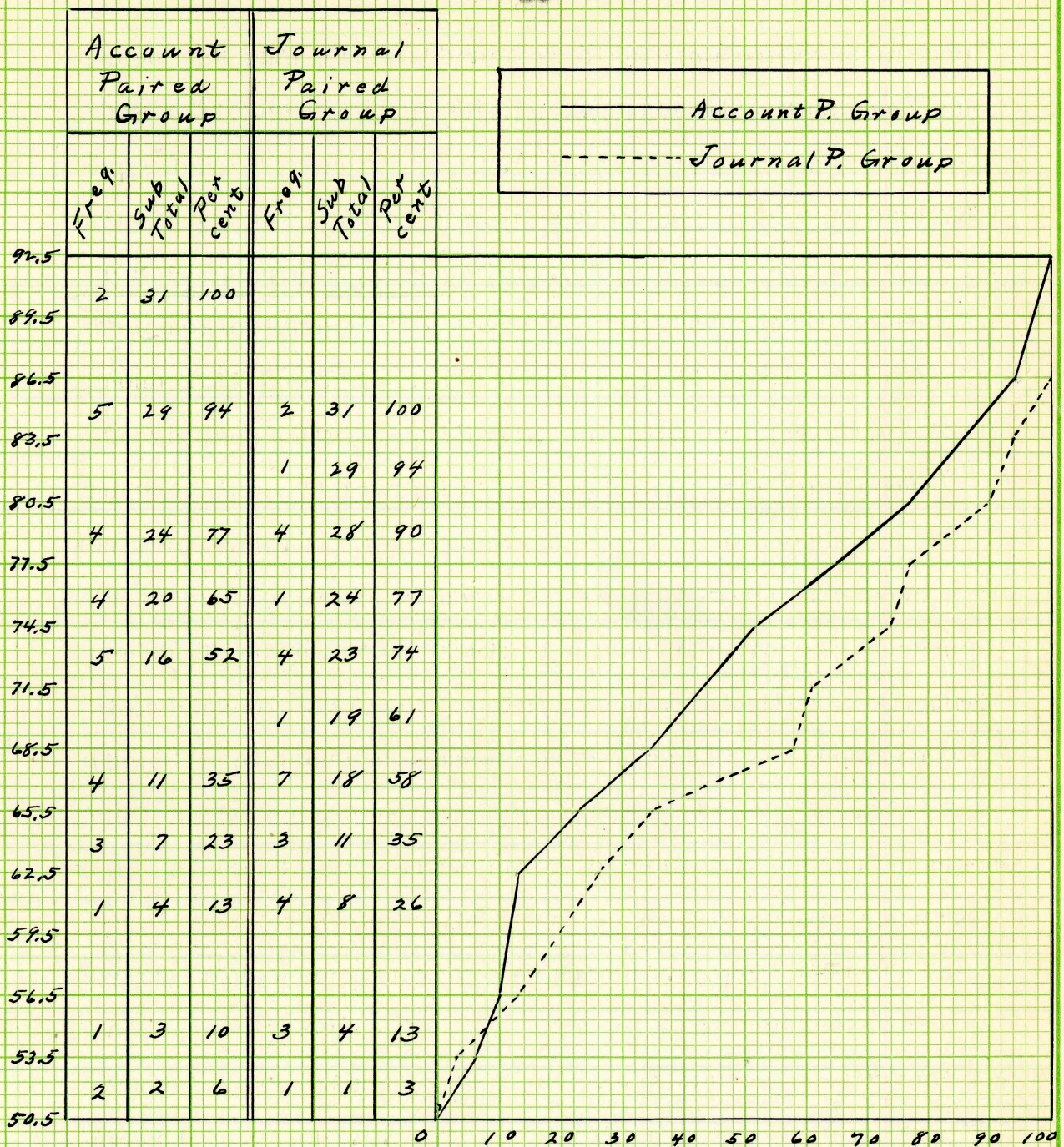


Fig. 2 Percentile Curves of Scores Made on the Piatt Bookkeeping Theory Test by the Two Paired Groups.

A general comparison of the two curves indicates that between the 8th percentile and the 100th percentile the Account paired group scored higher than the Journal paired group. The highest score was made by the Account group. The scores are closer together at the lower end of the distribution.

Figure 3 shows percentile curves of the final bookkeeping achievement of the two paired groups as measured by the Platt bookkeeping practice test.

A general comparison of the two curves indicates that the scores run fairly close over the entire range--the greatest divergence being at a point about one-third of the distance from the lower end. The Account paired group scored higher at the lower end of the distribution while the Journal paired group scored slightly higher at the upper end. The lowest score was made by the Journal group.

Figure 4 shows percentile curves of the final bookkeeping achievement of the two paired groups, based upon the sum of the percentile ranks on each of the three tests used in measuring bookkeeping. The following facts are indicated: the median for the Account paired group is approximately 162 and for the Journal paired group 117.

The upper quartile of the Account paired group is approximately 216 and the lower quartile 103, ~~and~~ making

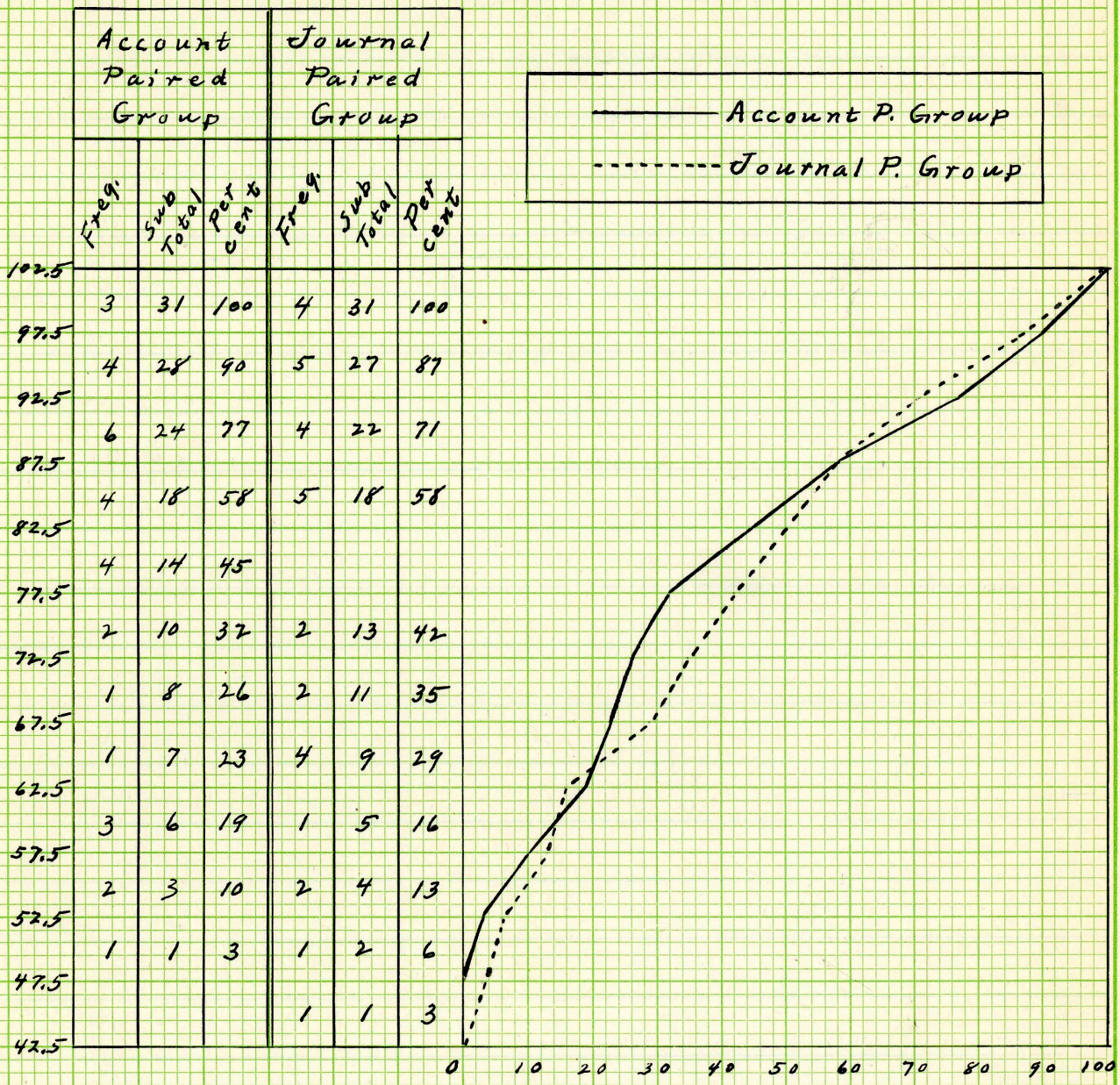


Fig. 5 Percentile Curves of Scores Made on the Piatt Bookkeeping Practice Test by the Two Paired Groups.

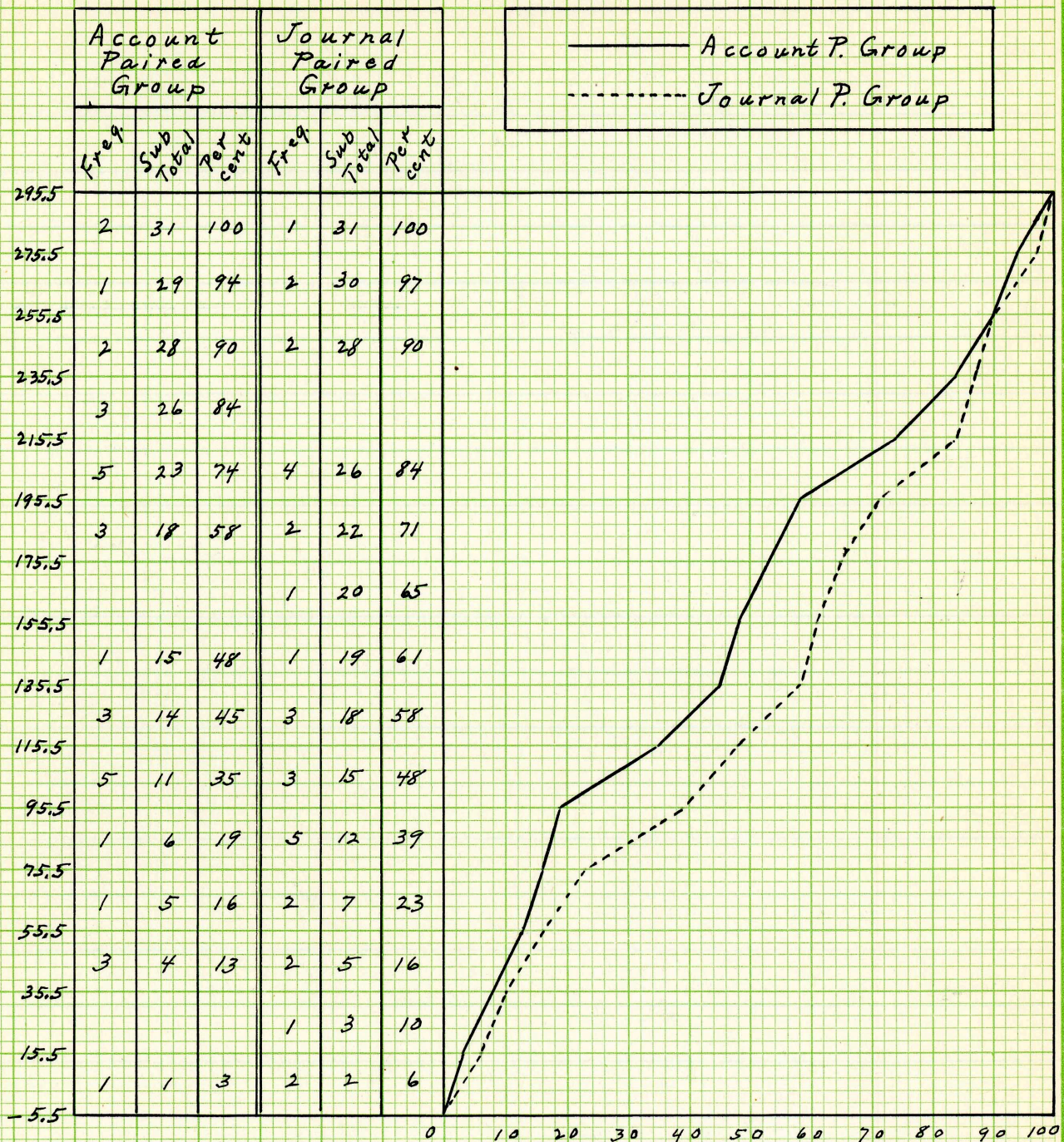


Fig. 4 Percentile Curves of Sum of Percentile Ranks from Scores Made by the Two Paired Groups on the Elwell-Fowlkes Bookkeeping Test, the Piatt Bookkeeping Theory Test, and the Piatt Bookkeeping Practice Test.

a range of 113 percentile rank points. The corresponding quartiles of the Journal paired group are 202 and 78, making a range of 124 percentile rank points.

A general comparison of the two curves indicates that the Account paired group scored higher over the entire range except at the 90th percentile where the scores are equal. The range is very symmetrical, probably because the curves represent a composite of the three measures.

While no attempt was made to compare the achievement in bookkeeping of these two groups, by pairs, a few facts may be of interest.

On the Elwell-Fowlkes Test the pupils in one pair made the same score, while in the other thirty pairs twenty-one of the pupils in the Account paired group made higher scores than their mates in the Journal paired group, and ten in the Journal paired group made higher scores than their mates in the Account paired group.

On the Piatt theory test three of the pupils in the Account paired group made the same score as their mates, while in the other twenty-eight pairs eighteen of the Account paired group made higher scores than their mates, and ten in the Journal paired group made the higher scores.

On the Piatt practice test the pupils in one pair made the same score, while in the other thirty pairs eighteen in the Journal paired group made higher scores than their mates, and twelve in the Account group made

higher scores than their mates in the Journal paired group.

From the facts shown in Table IV, and illustrated in Figures 1, 2, 3, and 4, it seems that the Account paired group exceeded the Journal paired group in theory of bookkeeping, but that in practice of bookkeeping the two groups were fairly equal.

Effect of Junior Business Training

During the progress of this study the question arose as to what effect the taking of a course in junior business training in the ninth grade might have had on final bookkeeping achievement. Did pupils who had taken the course have an advantage over others who had not taken the work? A check was made to try to discover if there had been any effect.

There were eight pupils in all who had taken the course in junior business training. Eight other pupils from the total remaining number of all the participants in this study were chosen who were closely equal in general ability and achievement probability to those who had had the training. These two groups were paired as were the matched groups shown in Table III. This gave eight pairs of pupils very similar in general ability and achievement probability. These pairs were then compared as to achievement in bookkeeping. Table V shows the results of the check.

TABLE V

Measures Showing the Ability and Bookkeeping Achievement of the Eight Pupils Who Had Had Junior Business Training and Eight Other Pupils of Equivalent Ability

Junior Training Group					Non-Junior Training Group				
No. of Pupil	I.Q.	Eng.- Math. Ach. Score	T'chs. Marks	Sum Pct. Ranks Bkkg. Ach.	No. of Pupil	I.Q.	Eng.- Math. Ach. Score	T'chs. Marks	Sum Pct. Ranks Bkkg. Ach.
5	121	436	24	238	6	119	428	28	281
11	119	435	24	219	14	109	436	27	278
34	103	435	29	225	33	103	438	24	258
36	102	385	17	203	38	102	380	20	139
51	97	382	20	97	54	96	397	15	147
62	93	354	18	86	64	93	358	14	105
76	88	407	16	185	77	88	388	18	208
78	87	335	18	19	79	85	323	18	55
Total	801	3169	165	1272		795	3148	164	1471

Table V gives the measures of general ability and the sum of the percentile ranks on the three tests for bookkeeping achievement for the eight pupils who had taken the course in junior business training, and eight others who had not taken the course. The two pupils of one pair are arranged on the same horizontal line and the table is read in this manner:

Pupil number five in the Junior training group has an I. Q. of 121, he scored 436 on English and mathematics achievement, his score on teachers' marks was 24, and his sum of percentile ranks on bookkeeping achievement was 238.

His mate, pupil number six in the Non-Junior training group, has an I. Q. of 119, he scored 428 on English and mathematics achievement, his score on teachers' marks was 28, and his sum of percentile ranks on bookkeeping achievement was 281.

In comparing the general ability of the matched groups it is seen that the two groups are fairly equal, but that in seven of the eight pairs the pupils who had not taken the course in junior business training exceeded their mates in the sum of the percentile ranks on bookkeeping achievement. This seems to indicate that the course is of such a nature that it has no advantageous effect on final achievement in bookkeeping. The apparent disadvantage may perhaps be explained by the small number of cases available for comparison.

Influence of Latin and Geometry

It has been found that high school pupils of high mental ability are more apt to elect Latin and geometry than are pupils of lower mentality. The question arose as to whether pupils in the bookkeeping classes who were also taking Latin or geometry might not be more able mentally, which would tend toward better achievement in bookkeeping than for those who were not taking these subjects. Checks were made similar to the check on the effect of junior business training. Table VI shows the

facts for the Latin pupils and Table VII for the geometry pupils.

Table VI gives the measures of general ability and the sum of the percentile ranks on the three tests for book-keeping achievement for the five pupils who were taking Latin and five other of equivalent ability who were not taking the subject. The two pupils of one pair are arranged on the same horizontal line and the table is read in the same manner as the preceding table.

TABLE VI

Measures Showing the Ability and Achievement in Bookkeeping of the Five Pupils Who Were Taking Latin and Five Other Pupils of Equivalent Ability

Latin Group					Non-Latin Group				
No. of Pupil	I.Q.	Eng.- Math. Ach. Score	T'chs. Marks	Sum Pct. Ranks Bkkg. Ach.	No. of Pupil	I.Q.	Eng.- Math. Ach. Score	T'chs. Marks	Sum Pct. Ranks Bkkg. Ach.
5	121	436	24	238	7	117	444	28	254
8	117	455	25	163	9	119	428	28	281
11	110	435	24	219	13	109	442	23	202
41	99	367	22	65	45	98	353	15	103
50	97	439	27	191	43	98	424	27	251
Total	544	2132	122	876		541	2091	121	1091

In comparing the general ability of these two matched groups it is seen that they are fairly equal, but that in four of the five pairs the pupils who were not taking Latin exceeded their mates in the sum of the percentile ranks on

bookkeeping achievement. This seems to indicate that there was no direct relation between the electing of Latin and achievement in bookkeeping. The apparent inverse relation may perhaps be explained by the small number of cases available for comparison.

Table VII shows the same type of information as is given in Table VI, except that it is a comparison of four pupils who were taking geometry and four others who were not taking the subject. The table is arranged in the same form as Tables V and VI and is read in the same manner.

TABLE VII

Measures Showing the Ability and the Bookkeeping Achievement of the Four Pupils Who Were Taking Geometry and Four Other Pupils of Equivalent Ability

Geometry Group					Non-Geometry Group				
No. of		Eng.-		Sum			Eng.-		Sum
Pupil	I.Q.	Math.	T'chs.	Pct.	Pupil	I.Q.	Math.	T'chs.	Pct.
		Ach.	Marks	Ranks			Ach.	Marks	Ranks
		Score		Bkkg.			Score		Bkkg.
				Ach.					Ach.
1	126	484	30	292	2	126	466	30	283
13	109	442	23	202	11	110	435	24	219
42	99	430	24	249	43	98	424	27	251
77	88	389	18	208	70	90	379	19	219
Total	422	1745	95	951		424	1704	100	972

In comparing the general ability of these two matched groups it is seen that they are fairly equal, but that in percentile ranks on bookkeeping achievement the pupils who were not taking geometry exceeded their mates who were

taking it in three of the four pairs. This seems to indicate that there was no direct relation between the electing of geometry and achievement in bookkeeping. The apparent inverse relation may perhaps be explained by the small number of cases available for comparison.

CHAPTER IV

SUMMARY AND GENERAL CONCLUSIONS

Summary of Findings

1. A comparison of the thirty-one pupils of the Account class with the fifty-eight pupils of the Journal classes showed that the Account class exceeded the Journal classes in their averages on three measures of general ability: in I. Q., .27 of one per cent; in gross scores on English and mathematics achievement, 1.3 per cent; and in teachers' marks, 2.3 per cent. It also showed that the Account class exceeded the Journal classes in average sum of the percentile ranks on bookkeeping achievement by 22.5 per cent.

2. A comparison of the thirty-one pupils in the Account paired group with the thirty-one pupils in the Journal paired group showed that the Account paired group exceeded the Journal paired group in their averages on all three measures and on a combined measure of bookkeeping achievement: in gross scores on Elwell-Fowlkes Bookkeeping Test, 7.3 per cent; on Piatt theory test, 6.7 per cent; on Piatt practice test, .5 of one per cent; and on sum of the percentile ranks on all bookkeeping tests, 17.2 per cent. These two groups had been so paired that they were fairly equal in general ability.

3. A comparison of eight pupils who had taken a course in junior business training the year before with eight

pupils of equivalent ability who had not taken the course, showed that in seven of the eight pairs the pupils who had not taken the course exceeded their mates in sum of the percentile ranks on bookkeeping achievement.

4. A comparison of five pupils who were taking Latin with five pupils of equivalent ability who were not taking Latin showed that in four of the five pairs the pupil who was not taking the subject exceeded his mate in sum of the percentile ranks on bookkeeping achievement.

5. A comparison of four pupils who were taking geometry with four pupils of equivalent ability who were not taking geometry showed that in three of the four pairs the pupil who was not taking the subject exceeded his mate in sum of the percentile ranks on bookkeeping achievement.

Conclusions

The results of this study lead us to the following conclusions:

1. There is a strong indication that better achievement in theory of bookkeeping was gained by use of the Account approach than by use of the Journal approach.

2. There was no significant difference in these two methods in respect to achievement in practice of bookkeeping.

3. The course of junior business training taken in the ninth grade was of such a nature that it had no advantageous effect upon the final achievement in

bookkeeping.

4. The election of Latin as a co-subject did not seem to have a direct effect upon final achievement in bookkeeping, but it is not safe to conclude that it had an adverse effect since the number of cases available for comparison were so few.

5. The election of geometry as a co-subject did not seem to have a direct effect upon final achievement in bookkeeping, but it is not safe to conclude that it had an adverse effect since the number of cases available for comparison were so few.

Recommendations

1. A repetition of the study in larger schools where more cases are available.

2. A similar study to compare other methods of approach.

3. A study to determine whether there is any relation between the method of approach used and the grade in which used; that is, is the equation method better for pupils in the twelfth grade than for pupils in the tenth grade.

4. More general use of experimental methods of research.

5. That publishers of text books encourage experimental research on the part of teachers.

APPENDIX

TABLE VIII

Measures of General Ability and Bookkeeping Achievement
for the Eighty-Nine Participants in this Study

No. of Pupil	Terman Test Score	Chr. Age	Ment. Age	I.Q.	Eng.- Math. Ach. Score	Tchs. Marks	Elwell- Fowlkes Test Score	Platt Th'ry Test Score	Platt Frac. Test Score
* 1	191	177	223	126	484	30	91	92	100
2	174	169	213	126	466	30	91	84	100
3	169	168	211	126	443	22	82	90	88
4	180	177	217	125	450	24	69	78	89
5	187	169	204	121	436	24	66	84	94
6	146	166	197	119	428	28	94	82	100
7	151	171	200	117	444	28	74	78	98
8	169	181	210	117	455	25	65	68	81
9	169	182	210	116	466	25	75	90	95
10	135	170	192	113	379	17	44	62	69
11	150	181	200	110	435	24	63	80	94
12	168	226	209	109	444	20	55	62	72
13	148	183	199	109	442	23	71	68	92
14	140	179	195	109	436	27	79	84	100
15	161	198	207	107	415	25	61	60	83
16	138	182	194	107	443	22	63	64	89
17	119	172	182	106	413	27	75	82	99
18	117	172	182	106	379	23	57	60	74
19	155	213	203	106	427	13	60	74	56
20	112	169	179	106	360	18	53	52	67
21	116	171	181	106	388	21	66	68	70
22	127	176	187	106	405	21	58	76	83
23	139	184	194	105	419	22	60	68	76
24	132	180	189	105	405	23	86	90	98
25	154	201	202	105	451	25	86	84	98
26	154	197	202	105	433	20	74	86	87
27	133	184	191	104	411	15	61	76	95
28	113	173	180	104	388	15	58	68	64
29	139	187	194	104	440	25	77	76	82
30	139	189	194	103	424	17	62	64	64
31	139	189	194	103	429	25	74	80	98
32	105	170	175	103	396	26	65	78	87
33	147	192	198	103	438	24	70	86	95
34	131	186	190	103	435	29	66	76	95
35	111	175	179	102	399	26	63	72	95
36	138	190	194	102	385	17	63	84	84
37	103	171	174	102	384	23	66	78	88
38	122	181	184	102	380	20	65	64	78
39	118	183	182	100	382	18	59	68	85

TABLE VIII (Continued)

No. of Pupil	Terman Test Score	Chr. Ass	Ment. Ass	I.Q.	Eng.- Math. Ach. Score	Tchs. Marks	Elwell- Fowlkes Test Score	Platt Th'ry Test Score	Platt Prac. Test Score
40	133	193	190	99	403	20	61	56	59
41	117	184	182	99	367	22	43	58	76
42	114	183	179	99	430	24	71	84	94
43	111	182	178	98	424	27	72	78	98
44	125	189	186	98	387	13	48	66	60
45	91	171	168	98	353	15	55	66	71
46	131	220	189	98	432	20	65	78	91
47	107	181	177	98	396	21	56	78	94
48	109	181	177	98	351	13	51	68	75
49	127	208	187	97	411	17	51	72	88
50	127	192	187	97	439	27	68	66	94
51	125	211	186	97	382	20	51	64	79
52	113	185	180	97	408	20	63	74	93
53	121	227	184	96	362	17	52	68	66
54	108	184	176	96	397	15	64	66	79
55	101	180	173	96	355	15	52	60	61
56	93	175	168	96	354	14	60	68	71
57	117	223	182	95	400	19	53	66	92
58	92	177	168	95	345	25	53	66	74
59	117	203	182	95	404	19	54	74	57
60	108	188	177	94	391	18	50	66	75
61	112	190	179	94	389	20	49	72	78
62	94	181	168	93	354	18	54	64	68
63	109	197	177	93	370	16	44	56	86
64	85	177	164	93	358	14	64	60	68
65	109	191	177	93	408	17	52	64	54
66	93	183	168	92	385	20	69	70	85
67	88	182	166	92	362	22	78	74	89
68	88	180	164	91	382	20	62	70	74
69	101	206	173	90	336	22	62	76	77
70	102	205	173	90	379	19	73	76	88
71	86	184	165	90	305	17	58	52	52
72	98	191	170	89	378	14	42	54	45
73	98	221	171	89	339	14	56	54	76
74	76	178	159	89	327	15	43	62	51
75	83	183	163	89	336	15	59	64	84

TABLE VIII (Continued)

No. of Pupil	Terman Test Score	Chr. Age	Ment. Age	I.Q.	Eng.- Math. Ach. Score	Tchs. Marks	Elwell- Fowlkes Test Score	Platt Th'ry Test Score	Platt Prac. Test Score
76	95	204	169	88	407	15	67	70	85
77	94	193	168	88	389	18	69	72	90
78	90	197	167	87	335	18	42	56	47
79	72	184	156	85	323	18	48	66	49
80	82	225	163	85	324	18	38	72	62
81	81	196	162	84	322	15	38	54	57
82	72	189	156	83	355	14	42	64	58
83	76	204	158	82	334	14	49	56	61
84	73	204	156	82	328	15	29	52	58
85	66	193	153	80	320	17	41	60	65
86	69	195	154	80	303	16	39	64	43
87	68	217	154	80	285	15	48	40	62
88	51	182	145	80	309	16	57	68	74
89	44	228	140	73	307	14	54	68	63

*Pupils numbered in order of I. Q.

TERMAN GROUP TEST OF MENTAL ABILITY

For Grades 7 to 12

Prepared by Lewis M. Terman, Stanford University, California

EXAMINATION: FORM A

1. Name
First name Last name
2. Boy or girl *Boy* Grade High or Low
3. Age last birthday *16* Date of birthday *Nov.* *9* *1914*
Month Day Year
4. Name of city (or county) *Parsons* *Kansas*
5. Name of school *Parsons High School*
6. Name of teacher *Chas. Pratt*
7. Date of this examination *Sept* *16* 19 *31*
Month Day Year

Do not turn the page until you are told to.

TEST	SCORE	REMARKS OR FURTHER DATA
1. Information	<i>17</i>	
2. Best Answer	<i>22</i>	
3. Word Meaning	<i>18</i>	
4. Logical Selection	<i>8</i>	
5. Arithmetic	<i>8</i>	
6. Sentence Meaning	<i>12</i>	
7. Analogies	<i>10</i>	
8. Mixed Sentences	<i>10</i>	
9. Classification	<i>12</i>	
10. Number Series	<i>10</i>	
Total	<i>127</i>	

TEST 1. INFORMATION

Draw a line under the ONE word that makes
the sentence true, as shown in the sample.

SAMPLE. Our first President was

Adams Jefferson Lincoln Washington

- 1 Coffee is a kind of
bark berry leaf root 1
- 2 Sirloin is a cut of
beef mutton lamb veal 2 X ✓
- 3 Gasoline comes from
grains petroleum turpentine seeds 3
- 4 Most exports go from
Boston San Francisco New Orleans New York. 4
- 5 The number of pounds in a ton is
1000 2000 3000 4000 5
- 6 Napoleon was finally defeated at
Leipzig Paris Verdun Waterloo 6 X ✓
- 7 Emeralds are usually
blue green red yellow 7
- 8 The optic nerve is for
seeing hearing tasting feeling 8
- 9 Larceny is a term used in
medicine theology law pedagogy 9
- 10 Sponges come from
animals farms forests mines 10
- 11 Confucius founded the religion of the
Persians Italians Chinese Indians 11
- 12 The larynx is in the
abdomen head throat shoulder 12
- 13 The piccolo is used in
farming music photography typewriting 13
- 14 The kilowatt measures
rainfall wind-power electricity water-power 14
- 15 The guillotine causes
death disease fever sickness 15
- 16 A character in "David Copperfield" is
Sindbad Uriah Heep Rebecca Hamlet 16
- 17 A windlass is used for
boring cutting lifting squeezing 17 X ✓
- 18 A great law-giver of the Hebrews was
Abraham David Moses Saul 18
- 19 A six-sided figure is called a
scholium parallelogram hexagon trapezium 19
- 20 A meter is nearest in length to the
inch foot yard rod 20

Right 17.....

TEST 2. BEST ANSWER

Read each question or statement and make a cross before the BEST answer, as shown in the sample.

- SAMPLE { Why do we buy clocks? Because
 1 We like to hear them strike.
 2 They have hands.
 X 3 They tell us the time.
- 1 Spokes of a wheel are often made of hickory because
 X 1 Hickory is tough.
 2 It cuts easily.
 3 It takes paint nicely.
 - 2 The saying, "A watched pot never boils," means
 1 We should never watch a pot on the fire.
 2 Boiling takes a long time.
 X 3 Time passes slowly when we are waiting for something.
 - 3 A train is harder to stop than an automobile because
 1 It has more wheels.
 X 2 It is heavier.
 3 Its brakes are not so good.
 - 4 The saying, "Make hay while the sun shines," means
 1 Hay is made in summer.
 X 2 We should make the most of our opportunities.
 3 Hay should not be cut at night.
 - 5 If the earth were nearer the sun
 1 The stars would disappear.
 2 Our months would be longer.
 X 3 The earth would be warmer.
 - 6 The saying, "If wishes were horses, beggars would ride," means
 X 1 Wishing doesn't get us very far.
 2 Beggars often wish for horses to ride.
 3 Beggars are always asking for something.
 - 7 The saying, "Little strokes fell great oaks," means
 1 Oak trees are weak.
 2 Little strokes are best.
 X 3 Continued effort brings results.
 - 8 A steel battleship floats because
 1 The engines hold it up.
 X 2 It has much air space inside.
 3 It contains some wood.
 - 9 The feathers on a bird's wings help him to fly because
 X 1 They make a wide, light surface.
 2 They keep the air off his body.
 3 They decrease the bird's weight.
 - 10 The saying, "A carpenter should stick to his bench," means
 1 Carpenters should not work without benches.
 2 Carpenters should not be idle.
 X 3 One should work at the thing he can do best.
 - 11 The saying, "One swallow does not make a summer," means
 1 Swallows come back for the summer.
 X 2 A single sign is not sufficient proof.
 3 Many birds add to the pleasures of summer.

Right . . . / . . . X 2 = Score 22

TEST 3. WORD MEANING

When two words mean the SAME, draw a line under "SAME."

When they mean the OPPOSITE, draw a line under "OPPOSITE."

SAMPLES	fall — drop	<u>same</u> — opposite	
	north — south	same — <u>opposite</u>	
1	expel — retain	same — <u>opposite</u>	1
2	comfort — console	<u>same</u> — opposite	2
3	waste — conserve	same — <u>opposite</u>	3
4	monotony — variety	same — <u>opposite</u>	4
5	quell — subdue	<u>same</u> — opposite	5
6	major — minor	same — <u>opposite</u>	6
7	boldness — audacity	<u>same</u> — opposite	7
8	exult — rejoice	<u>same</u> — opposite	8
9	prohibit — allow	same — <u>opposite</u>	9
10	debase — degrade	<u>same</u> — opposite	10
11	recline — stand	<u>same</u> — opposite	11 X ✓
12	approve — veto	same — <u>opposite</u>	12
13	amateur — expert	same — <u>opposite</u>	13
14	evade — shun	<u>same</u> — opposite	14
15	tart — acid	<u>same</u> — opposite	15
16	concede — deny	<u>same</u> — opposite	16 X ✓
17	tonic — stimulant	<u>same</u> — opposite	17
18	incite — quell	same — <u>opposite</u>	18
19	economy — frugality	<u>same</u> — opposite	19
20	rash — prudent	same — <u>opposite</u>	20
21	obtuse — acute	same — <u>opposite</u>	21
22	transient — permanent	same — <u>opposite</u>	22
23	expel — eject	<u>same</u> — opposite	23
24	hoax — deception	<u>same</u> — opposite	24
25	docile — submissive	same — <u>opposite</u>	25 X ✓
26	wax — wane	<u>same</u> — opposite	26 X ✓
27	incite — instigate	same — <u>opposite</u>	27 X ✓
28	reverence — veneration	<u>same</u> — opposite	28
29	asset — liability	<u>same</u> — opposite	29 X ✓
30	appease — placate	<u>same</u> — opposite	30

Right 24 Wrong 6 Score 18

TEST 4. LOGICAL SELECTION

FORM A

In each sentence draw a line under the TWO words that tell what the thing ALWAYS has. Underline TWO, and ONLY TWO, in each line.

- SAMPLE. A man always has
body cap gloves mouth money
- 1 A horse always has
harness hoofs shoes stable tail 1
 - 2 A circle always has
altitude circumference latitude longitude radius 2
 - 3 A bird always has
bones eggs beak nest song 3
 - 4 Music always has
listener piano rhythm sound violin 4
 - 5 An object always has
smell size taste value weight 5 X
 - 6 Conversation always has
agreement persons questions wit speech 6 X
 - 7 A banquet always has
food music persons speeches toastmaster 7
 - 8 A pistol always has
barrel bullet cartridge sights trigger 8 X
 - 9 A ship always has
engine guns keel rudder sails 9 X
 - 10 A debt always involves
creditor debtor interest mortgage payment 10
 - 11 A game always has
cards contestants forfeits penalties rules 11
 - 12 A magazine always has
advertisements paper pictures print stories 12
 - 13 A museum always has
animals arrangement collections minerals visitors 13 X
 - 14 A forest always has
animals flowers shade underbrush trees 14 X
 - 15 A citizen always has
country occupation privileges property vote 15 X
 - 16 Controversy always involves
claims disagreement dislike enmity hatred 16 X
 - 17 War always has
airplanes cannons combat rifles soldiers 17 X
 - 18 Obstacles always bring
difficulty discouragement failure hindrance stimulation .. 18 X
 - 19 Abhorrence always involves
aversion dislike fear rage timidity 19
 - 20 Compromise always involves
adjustment agreement friendship respect satisfaction ... 20

Right... 2/6

TEST 5. ARITHMETIC

Find the answers as quickly as you can.
Write the answers on the dotted lines.
Use the bottom of the page to figure on.

- 1 How many hours will it take a person to go 66 miles at the rate of 6 miles an hour? *Answer 11.....*
- 2 At the rate of 2 for 5 cents, how many pencils can you buy for 50 cents? *Answer.....*
- 3 If a man earns \$20 a week and spends \$14, how long will it take him to save \$300? *Answer 50 weeks*
- 4 $2 \times 3 \times 4 \times 6$ is how many times as much as 3×4 ? *Answer 12...*
- 5 If two pies cost 66 cents, what does a sixth of a pie cost? *Answer 11.....*
- 6 What is $16\frac{2}{3}$ per cent of \$120? *Answer 900.....*
- 7 4 per cent of \$1000 is the same as 8 per cent of what amount? *Answer 500.....*
- 8 A has \$180, B has $\frac{2}{3}$ as much as A, and C has $\frac{1}{2}$ as much as B. How much have all together? *Answer.....*
- 9 The capacity of a rectangular bin is 48 cubic feet. If the bin is 6 feet long and 4 feet wide, how deep is it? *Answer.....*
- 10 If it takes 7 men 2 days to dig a 140-foot ditch, how many men are needed to dig it in half a day? *Answer.....*
- 11 A man spends $\frac{1}{4}$ of his salary for board and room, and $\frac{3}{8}$ for all other expenses. What per cent of his salary does he save? *Answer.....*
- 12 If a man runs 100 yards in 10 seconds, how many feet does he run in $\frac{1}{5}$ of a second? *Answer.....*

$$\begin{array}{r}
 3 \overline{) 152} \\
 \underline{9} \\
 62 \\
 \underline{60} \\
 20 \\
 \underline{18} \\
 20 \\
 \underline{18} \\
 20
 \end{array}$$

$$\begin{array}{r}
 50 \times 1200 \\
 \underline{950} \\
 1420 \\
 \underline{24} \\
 144
 \end{array}$$

$$\begin{array}{r}
 20 \\
 19 \\
 \hline
 6 \overline{) 300}
 \end{array}$$

$$\begin{array}{r}
 180 \overline{) 120} \\
 \underline{180} \\
 0
 \end{array}$$

Right..... $\times 2 = \text{Score}$

TEST 6. SENTENCE MEANING

Draw a line under the right answer, as shown in the samples.

SAMPLES	{ Is coal obtained from mines?		<u>Yes</u>	No	
	{ Are all men six feet tall?		Yes	<u>No</u>	
1	Does a conscientious person ever make mistakes?	<u>Yes</u>	No	1	
2	Is an alloy a kind of musical instrument?	Yes	<u>No</u>	2	
3	Is scurvy a kind of medicine?	Yes	<u>No</u>	3	
4	Are mysterious things often uncanny?	<u>Yes</u>	No	4	
5	Are destitute persons often subjects of charity?	<u>Yes</u>	No	5	
6	Are anonymous letters ever properly signed?	Yes	<u>No</u>	6	
7	Is the mimeograph sometimes used by stenographers? .	<u>Yes</u>	No	7	
8	Is a curriculum intended for horses?	Yes	<u>No</u>	8	
9	Are proteids essential to health?	Yes	<u>No</u>	9	X
10	Does "perfunctory" mean the same as "careful"? . .	Yes	<u>No</u>	10	
11	Are premeditated deeds always wicked?	Yes	<u>No</u>	11	
12	Do alleged facts often require verification?	<u>Yes</u>	No	12	
13	Are sheep carnivorous?	<u>Yes</u>	No	13	X
14	Are aristocrats subservient to their inferiors?	Yes	<u>No</u>	14	
15	Are venerable people usually respected?	Yes	<u>No</u>	15	X
16	Is clematis sometimes cultivated?	<u>Yes</u>	No	16	
17	Are ultimate results the last to appear?	<u>Yes</u>	No	17	
18	Are cerebral hemorrhages helpful to thinking?	<u>Yes</u>	No	18	X
19	Are all people religious who have hallucinations? . . .	Yes	<u>No</u>	19	
20	Are intermittent sounds discontinuous?	<u>Yes</u>	No	20	
21	Are sable colors preferred for nations' flags?	Yes	No	21	✓
22	Does social contact tend to reduce eccentricities? . . .	Yes	No	22	✓
23	Are tentative decisions usually final?	Yes	No	23	✓
24	Is rancor usually characterized by persistence?	Yes	No	24	✓

Right 16 Wrong 4 Score 12

TEST 7. ANALOGIES

SAMPLES { Ear is to hear as eye is to
table see hand play
Hat is to head as shoe is to
arm coat foot leg

Do them all like samples.

- | | | |
|----|--|----|
| 1 | Coat is to wear as bread is to | |
| | <u>eat</u> starve water cook | 1 |
| 2 | Week is to month as month is to | |
| | <u>year</u> hour minute century | 2 |
| 3 | Monday is to Tuesday as Friday is to | |
| | week <u>Thursday</u> day Saturday | 3 |
| 4 | Tell is to told as speak is to | |
| | sing <u>spoke</u> speaking sang | 4 |
| 5 | Lion is to animal as rose is to | |
| | smell leaf <u>plant</u> thorn | 5 |
| 6 | Cat is to tiger as dog is to | |
| | <u>wolf</u> bark bite snap | 6 |
| 7 | Success is to joy as failure is to | |
| | sadness luck <u>fail</u> work | 7 |
| 8 | Liberty is to freedom as bondage is to | |
| | negro <u>slavery</u> free suffer | 8 |
| 9 | Cry is to laugh as sadness is to | |
| | death <u>joy</u> coffin doctor | 9 |
| 10 | Tiger is to hair as trout is to | |
| | water fish <u>scales</u> swims | 10 |
| 11 | 1 is to 3 as 9 is to | |
| | 18 <u>27</u> 36 45 | 11 |
| 12 | Lead is to heavy as cork is to | |
| | bottle weight <u>light</u> float | 12 |
| 13 | Poison is to death as food is to | |
| | <u>eat</u> bird life bad | 13 |
| 14 | 4 is to 16 as 5 is to | |
| | 7 45 35 25 | 14 |
| 15 | Food is to hunger as water is to | |
| | drink clear thirst pure | 15 |
| 16 | b is to d as second is to | |
| | third later fourth last | 16 |
| 17 | City is to mayor as army is to | |
| | navy soldier general private | 17 |
| 18 | Here is to there as this is to | |
| | these those that then | 18 |
| 19 | Subject is to predicate as noun is to | |
| | pronoun adverb verb adjective | 19 |
| 20 | Corrupt is to depraved as sacred is to | |
| | Bible hallowed prayer Sunday | 20 |

Right

TEST 8. MIXED SENTENCES

The words in each sentence below are mixed up. If what a sentence means is TRUE, draw a line under "TRUE." If what it means is FALSE, draw a line under "FALSE."

SAMPLES	{	hear are with to ears	<u>true</u>	false	
	{	eat gunpowder to good is	true	<u>false</u>	
1		true bought cannot friendship be	<u>true</u>	false	1
2		good sea drink to is water	true	<u>false</u>	2
3		of is the peace war opposite	<u>true</u>	<u>false</u>	3
4		get grow they as children taller older	true	<u>false</u>	4 X
5		horses automobile an are than slower	<u>true</u>	false	5
6		never deeds rewarded be should good	true	<u>false</u>	6
7		four hundred all pages contain books	true	<u>false</u>	7
8		to advice sometimes is good follow hard	<u>true</u>	false	8
9		envy bad greed traits are and	<u>true</u>	false	9
10		grow an than strawberries oak tree higher	<u>true</u>	<u>false</u>	10
11		external deceive never appearances us	<u>true</u>	false	11 X
12		never is man what show a deeds	true	<u>false</u>	12
13		hatred bad unfriendliness traits are and	<u>true</u>	false	13
14		often judge can we actions man his by a	<u>true</u>	false	14
15		in are always American cities born presidents	<u>true</u>	false	15 X
16		certain always death of cause kinds sickness	<u>true</u>	false	16
17		are sheet blankets as as a never warm	true	false	17 ✓
18		never who heedless those stumble are	true	false	18 ✓

Right. 13 Wrong 3 Score 10

TEST 9. CLASSIFICATION

SAMPLES { 1 bullet cannon gun sword ~~pencil~~
 2 Canada ~~Chicago~~ China India France

In each line cross out the word that does not belong there.
 Cross out JUST ONE WORD in each line.

- | | | | |
|----|--|----|-----|
| 1 | Frank James John Sarah <u>William</u> | 1 | X ✓ |
| 2 | Baptist Catholic Methodist Presbyterian <u>Republican</u> .. | 2 | |
| 3 | automobile bicycle buggy <u>telegraph</u> train | 3 | |
| 4 | Collie <u>Holstein</u> Shepherd Spitz Terrier | 4 | |
| 5 | hop run skip <u>stand</u> walk | 5 | |
| 6 | death grief <u>picnic</u> poverty sadness | 6 | |
| 7 | bed chair <u>dish</u> sofa table | 7 | |
| 8 | hard rough <u>smooth</u> soft sweet | 8 | X ✓ |
| 9 | <u>mechanic</u> doctor lawyer preacher teacher | 9 | |
| 10 | Christ Confucius Mohammed Moses <u>Cæsar</u> | 10 | |
| 11 | butterfly hawk ostrich robin swallow | 11 | X ✓ |
| 12 | <u>cloth</u> cotton flax hemp wool | 12 | |
| 13 | digestion hearing sight smell touch | 13 | |
| 14 | down hither recent up yonder | 14 | X ✓ |
| 15 | anger hatred joy pity <u>reasoning</u> | 15 | |
| 16 | Australia Cuba Iceland Ireland <u>Spain</u> | 16 | |
| 17 | Dewey Farragut Grant Paul Jones <u>Schley</u> | 17 | X ✓ |
| 18 | give lend lose keep <u>waste</u> | 18 | X ✓ |

Right..... 12 ✓

TEST 10. NUMBER SERIES

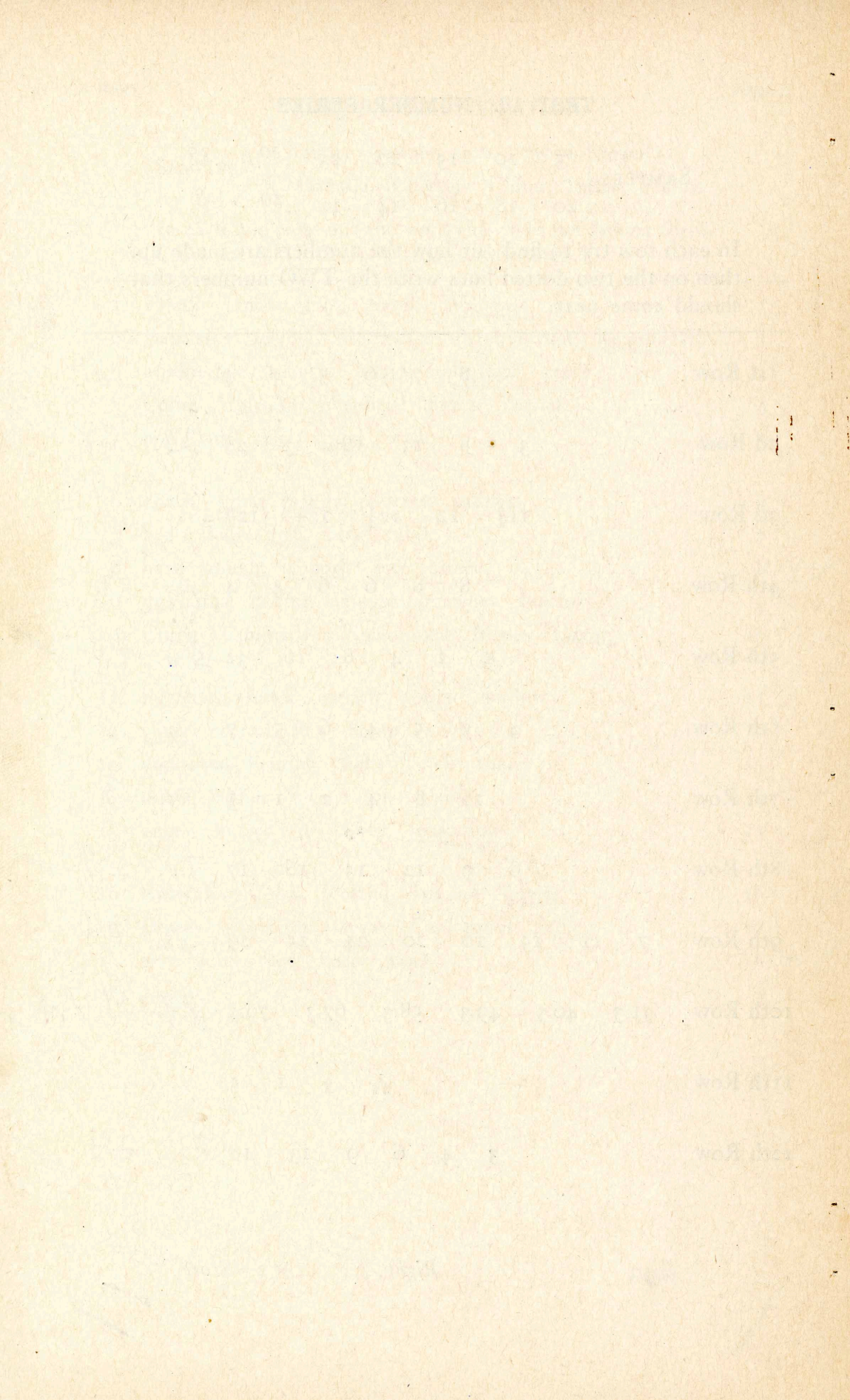
FORM A

SAMPLES	5	10	15	20	25	30	35
	20	18	16	14	12	10	8

In each row try to find out how the numbers are made up, then on the two dotted lines write the TWO numbers that should come next.

1st Row				8	7	6	5	4	3	2...	1..
2d Row				3	8	13	18	23	28	33.	38
3d Row				$11\frac{3}{4}$	12	$12\frac{1}{4}$	$12\frac{1}{2}$	$12\frac{3}{4}$	
4th Row				8	8	6	6	4	4	2..	7..
5th Row				1	2	4	8	16	32	36.	40.
6th Row				4	3	5	4	6	5	7
7th Row				16	8	4	2	1	$\frac{1}{2}$	$\frac{1}{4}$.	$\frac{1}{8}$.
8th Row				8	9	12	13	16	17	18.	19.
9th Row	7	11	15	16	20	24	25	29	33.	34.	
10th Row	31.3	40.3	49.3	58.3	67.3	76.3	88.3	97.3	
11th Row				$\frac{1}{25}$	$\frac{1}{5}$	1	5		
12th Row				3	4	6	9	13	18	21..	24.

Right... $\times 2 =$ Score... $\frac{10}{20}$



New Stanford Achievement Test

By TRUMAN L. KELLEY, GILES M. RUCH, and LEWIS M. TERMAN

ADVANCED EXAMINATION: FORM V

FOR GRADES 4-9

Name..... Grade 10..... Boy or girl.....

Age 12..... When is your next birthday? Oct 24..... How old will you be then? 16.....

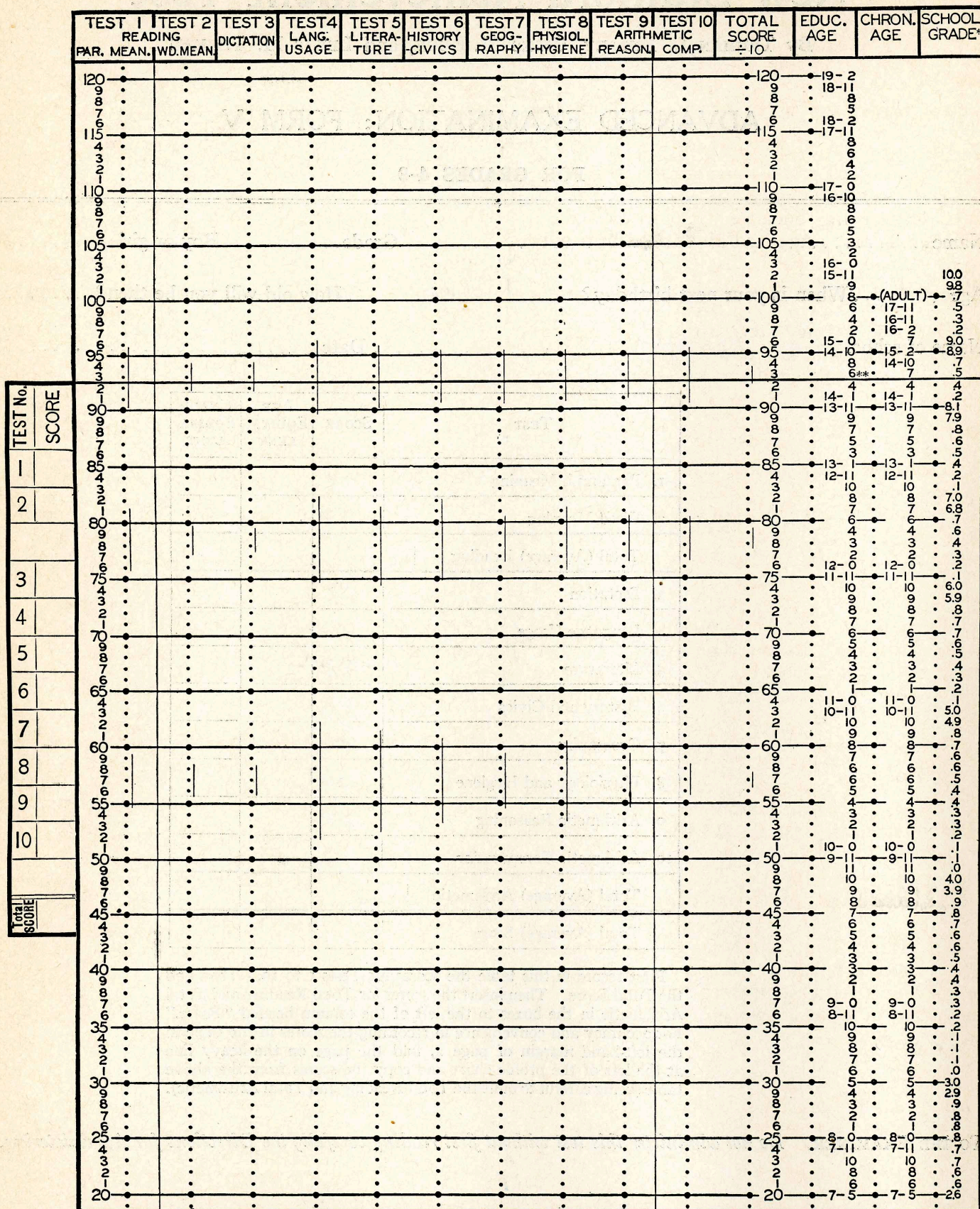
Name of school S. High..... Date Sep 21.....

TEST	SCORE	AGE EQUIVA- LENT	GRADE EQUIVA- LENT
1. Paragraph Meaning	✓ 101		
2. Word Meaning	✓ 82		
Total (Average) Reading	183		
3. Dictation	✓ 81		
4. Language Usage	✓ 88		
5. Literature	✓ 90		
6. History and Civics	✓ 83		
7. Geography	✓ 91		
8. Physiology and Hygiene	✓ 104		
9. Arithmetic Reasoning	✓ 80		
10. Arithmetic Computation	✓ 56		
Total (Average) Arithmetic	136		
Total (Average) Score	856		


First record in this table the scores for Tests 1 to 10. Then find the Total Score. Then insert the scores for Total Reading and Total Arithmetic in the boxes to the left of the column headed "Score." For accuracy and convenience in recording the scores in the table in the left-hand margin of page 2, fold the page on the heavy line at the left of the profile chart and copy the scores from the above table (being careful to omit the Total Reading and Total Arithmetic).

TO THE EXAMINER. *Do not administer this test without first reading carefully the Directions for Administering.*

EDUCATIONAL PROFILE CHART: NEW STANFORD ACHIEVEMENT TEST, ADVANCED EXAMINATION



* Grade defined as in Table 1 of the *Directions for Administering*. ** Educational Ages above this point are extrapolated values. See *Guide for Interpreting* for explanation of vertical lines.

 This Profile Chart is the table of norms for the Advanced Examination.

DIRECTIONS: Write **JUST ONE WORD** on each dotted line.

SAMPLE:

Dick and Tom were playing ball in the field. Dick was throwing the ball and..... was trying to catch it.

1 Ned was crying because his pony had died. Just then a fairy appeared and asked him why he was so sad. "Because," said Ned, "my dear little.....is dead."

2-3 Christmas brought toys for all. There was a ball for Mary and a cart for Paul. When the children found the presents, they were very happy. Paul played with his..... and Mary with her..... all day.

4-5 Helen and Kate pulled their sled through the deep snow to the top of the hill and soon were coasting swiftly down again. They did this over and over. The.....was so deep that they found it hard work to drag the.....to the top.

6-7 A gray pussy saw a lark out in the field and thought it would make a fine dinner. "Come here, pretty lark," said the....., "and I will show you the bell that hangs on my neck." But the wise lark said he did not care to see the.....and flew away quickly.

8-9 A pretty squirrel once lived in a hollow tree near the window of a farmhouse. In the room where the window was, a little girl named Nellie lay sick. Every day the.....came to the window and chattered as though to keep.....from getting lonesome.

10-11 A grizzly bear had a home in the high peaks of the mountains. Four flocks of bighorn sheep occupied the same area but there never was any trouble between the.....and the.....

12-13-14 Sarah practices on the piano every morning while Tom tries to play tennis alone. One day Tom asked Sarah to play with him and she said, "I can't, it would make me sick to play." "Playing.....won't hurt you," said.....; "it's better for you than playing the.....so much."

Go right on to the next column.

15-16 An old fairy tale tells of a little girl who was cured of telling falsehoods. A wise fairy clasped a diamond necklace about the little girl's throat. Whenever she said anything that was not true, the diamonds turned to coal until the truth was told. This so shamed the.....that she finally learned to speak only the.....

17-18 Although Bert and John were brothers, they were not at all alike. John was big and strong and he had very few friends. On the other hand,.....was small and weak but he was.....by everyone.

19-20 The Eskimos sometimes live in homes made of blocks of ice. Since ice melts rapidly when exposed to a temperature above 32 degrees, it is necessary for the Eskimos to keep the temperature of the room below.....degrees to keep the house from.....

21-22-23 All animals have some way of defending themselves from attack. The lion has sharp teeth, the rhinoceros has a hide so thick that scarcely anything can pierce it, while the deer can jump and run with great speed. If a single animal had the lion's....., the rhinoceros' thick....., and the deer's ability to....., it would be hard to conquer.

24-25-26 Dumped into Ernest's corner of the attic are a roller skate and a much-read story-book. "Ernest likes me better than he likes you," said the skate. "Why, you poor skate, how mistaken you are," said the book. At this moment they heard from outdoors, "Come on, Ernest, let's scoot." The word "scoot" set the book's leaves a-trembling and sent a thrill of joy through the iron heart of the skate. But just then it began to rain hard, "Pitter-patter, pitter-patter," on the attic roof. This sent a thrill to the heart of the....., and a shudder to the heart of the..... Soon Ernest came in and said, "Where is that old.....of mine?"

27-28 Trout cannot live in water which is warmer than that of their cold native mountain streams, and they prefer flowing water to still water. In the government fish hatcheries the baby trout are kept in special tanks in which the water is kept.....and.....

Turn the page and go right on.

29-30 Johnny was walking down the sidewalk in a very peculiar way. He was saying, "If I step on a crack, I will break my back; if I step in the middle, I will feel fit as a fiddle." His steps were not of the same length, because he was trying not to step on a crack.

31-32 Leonardo da Vinci, the artist who painted "The Last Supper," also made important discoveries as a scientist. We do not often think of him as both artist and scientist.

33-34 In a certain village a ton of coal costs as much as a cord of wood, but it produces twice as much heat. Therefore the poor families in this village should be advised to burn coal rather than wood.

35-36 Steel is made from iron and is therefore a manufactured product. Similarly brass is commonly made from copper and zinc. This explains why we never hear of steel and brass mines.

37-38 The Iroquois and many other tribes of Indians were very fond of war. However, the Papago Indians of Arizona prefer peace and quiet. The men sit lazily in the shade of their huts while the women weave baskets. It is hard to imagine the Papago Indians going to war or hard.

39-40 Deciduous trees lose their leaves in winter, while evergreens, as their name implies, do not. Therefore, in forests composed of deciduous trees the ground is less shaded in winter than is the case in forests whose trees are evergreen.

41-42 There are many kinds or breeds of cattle, each one being of some special use to man. Jersey cows are not highly desirable for meat, but produce large quantities of rich milk. Hereford cattle have just the opposite characteristics. Consequently, if one wanted to produce beef, he would choose the Jersey rather than the Hereford breed.

43-44 All things considered, water is the most important factor that determines success or failure in agriculture. Temperature is frequently a limiting factor, but water is much oftener than temperature the considering factor.

Go right on to the next column.

45-46 "Prince," said the Sultan, "your condition can never be sufficiently deplored; no one can be more sensibly affected by your misfortune than I am. Never did anything so extraordinary befall any man! One thing only is wanting—revenge to which you are entitled; and I will omit nothing in my power to effect it." The prince expressed his gratitude and began to plan how he might secure the revenge to which the Sultan thought he was entitled.

47-48 Ora and Anna Blackmore are twins. They have a sister, Helen, and two friends, Clara and Bessie. Write the names of two Blackmore girls who are not of the same age. Anna and Helen.

49-50 When we hear of the Chinese wearing wooden shoes and eating with chopsticks, we think it very odd. A Chinaman would be just as surprised at our leather shoes and our table forks and spoons. The customs of any people appear strange to anyone not familiar with them.

51-52 A few yards away large birds were greedily feeding upon dead fish, regardless of our presence. They were buzzards, scavengers of our southern seacoasts. In spite of their being ugly and unmannered, we owe them a kind of respect, for we have learned to know they are among the best friends of dwellers in the tropic climate, disposing as they do of decaying material which otherwise might be a menace to health.

53-54 Many gardeners plant perennial flowers in preference to annuals because the former will bloom for more than one season. Since nasturtium is an annual and hollyhock is a perennial, we can expect the nasturtium will live longer than the hollyhock.

55-56 If I were writing about the rich, I should be inclined to divide them, according to their attitude toward life, into workers and parasites. The motto of the worker is, "I owe the world a life," and the motto of the parasite is, "The world owes me a living."

57-58 Man will risk as much for notoriety as for money. If this were not true, why would anyone risk his life by going over Niagara Falls in a barrel? Such a feat, even if successful, may bring the "hero" no money, but it is certain to bring him much notoriety.

Go right on to the next page.

Number right	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Score	3	13	16	18	20	23	25	27	29	31	33	35	37	39	41	43	44	46	47	49	51	53	54	56	58	59	60	61	62	64	65	66	67	69	70	71	72	73	75	76	77

59-60-61 We have all seen iron subjected to hot fires and yet it did not burn. However, iron does "burn up" and this fact is demanding the attention of some of our greatest engineers. Iron combines very readily with oxygen to form iron oxide, known as rust. Oxidation is only a form of slow combustion. Consequently, if is not treated to oxidation it will soon *rust*

62-63 A nation composed of good homes is a good nation. The best homes teach their children high ideals and good habits which tend to prevent sickness, poverty, vice, or crime. A has few problems which would not be half cured if all were good ones. *homes*

64-65 One of the fundamental aims of silent reading is that of training each child to attain his highest level of achievement in speed without lowering his accuracy of comprehension. Neither nor should be developed at the expense of the other.

66-67 A membrane which permits the passage of water through it but which does not permit substances dissolved in water to pass is called a semi-permeable membrane. One which allows dissolved substances as well as to pass is a membrane. *water* *permeable*

68-69 We like to subdue. Boys like to go stamping through the woods, breaking their way through to new paths. Before this modern age, war and hunting offered opportunities for the fighting spirit. The lives of most of us today are more Modern conditions make little demand on our tendencies. *like* *make*

70-71 To pant for recognition, to yearn to impress one's personality upon one's fellow-men, is the essence of ambition. The ambitious person may think that he merely thirsts to "do something" or "be somebody," but really what he craves is to figure potently in the minds of others, to be greatly loved, admired, or feared. To reap even a great success which no one does not satisfy the yearnings of the individual.

Go right on to the next column.

72-73 Among the most characteristic and amazing properties of bacteria is their ability for rapid multiplication. It has been estimated that the descendants of one bacterium under continued favorable conditions would in two days number 281,500,000,000 and in three days weigh about 7,000 tons. Fortunately, under ordinary conditions does not proceed unchecked at such a *bacteria* *speed*

74-75 "Naïve" and "unsophisticated" are frequently confused. The former suggests a type of behavior which is artless, spontaneous, and free from restraints of custom. The latter implies fully as great lack of knowledge of social usage, and, in addition, conduct which is primitive and per chance inelegant. Thus, the youth was the first to enter the car, and his little sister warmly kissed him in the presence of the king.

76-77 The production of bodily energy involves a chemical process. Animal energy is derived directly from food. All cell activity involves the expenditure of energy. Therefore all have to be

78 Fundamentally, education depends upon the capacity of a person to profit by past experiences. Past situations modify present and future adjustments. Education in its broadest sense means acquiring experiences that serve to existing inherited or acquired tendencies of behavior.

79-80 Suppose that in a certain country the law provides that a will, to be a valid legal instrument, must be signed by the testator (maker) in the joint presence of at least two witnesses who must themselves sign the document in attestation of the testator's signature. Mr. Brown having drawn up a will in the morning calls in Mr. Smith to witness his signature and in the afternoon calls in Mr. Jones. Since Mr. Jones was not present in the morning, Mr. Brown again signs the will and Mr. Jones then signs it. This will is because the two witnesses witnessed the making of Mr. Brown's signature. *legal*

End of Test 1. Look over your work.

DIRECTIONS: Draw a line under the word that makes the sentence true, as shown in the samples.

SAMPLES:

A rose is a
box flower home month river

A roof is found on a
book person rock house word

1 New York is the name of a
city person ride river school

2 A shining thing is
dull high bright warm wide

3 Silk is for
books dresses gardens horses letters

4 Joyful means
even great happy short slow

5 Tears come usually when we
drink eat talk walk cry

6 A horn makes
pictures plans suits music tears

7 A limb is a part of a
story table tree wall window

8 To stitch is to
reward sew starve suggest tempt

9 The ocean is
fire land paper water wood

10 To lift means to
raise begin drive laugh watch

11 Cotton is used for
clothes dinners notes wheels

12 An American is a
ball house person place table

13 A farmer works chiefly with
fish coal plants rocks wood

14 Beaches are found on a
barn coast cloak horse roof

15 A vessel is a
boat bow cloth forest lady

16 To pronounce is to
sail show speak stand watch

17 A couch is a kind of
bed captain offer pick wall

18 To be free is to have liberty
luxury patience religion revenge

Go right on to the next column.

19 Frightful means discreet precise
enthusiastic terrifying vigorous

20 Clever means
bright neat peculiar stern upright

21 A snake is a foreigner
gallery geography mold serpent

22 To inquire is to
appear rest ask sleep watch

23 A remark is something that is
destroyed slow held kept said

24 To despise is to
bind effect hate obey observe

25 A parson is a
minister pond porch prison robin

26 A monstrous thing is
horrible modest musical useful torn

27 An argument is a discussion
gully gymnasium penance perjury

28 Injury means
charm experience haste harm limit

29 A misunderstanding is a kind of diadem
disagreement disk magnet monastery

30 To scare is to
sympathize tackle taunt terrify loan

31 A worshiper is domestic
fearful gracious religious steady

32 To sneer is to
scoff scorch scratch scream scrub

33 To be brave is to be humble
courageous frightful honorable ignoble

34 Contentment means notion
provision rainbow satisfaction trifle

35 Unarmed means advantageous
beggarly defenseless verbal wasteful

36 A purchaser is a
flatterer buyer flirt hearer voter

37 A sawmill produces
candy brides dew wire lumber

38 Commerce means
speed station trade uncle weather

39 To grant means to
get give see step wish

Go right on to the next page.

Number right	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Score	3	13	16	19	22	25	27	29	31	33	35	37	39	41	43	44	45	47	48	49	51	52	53	55	56	57	58	60	61	62	63	64	66	67	68	69	70	71	72	73	75

40 Violence usually causes benefit
happiness harm knowledge respect

41 A literary person is a champion
driver robber founder writer

42 A cave is a
ballad dresser frontier grotto plea

43 An occupation is a kind of
bath luxury activity relative vein

44 Thou means her him me they you

45 To reveal is to
abuse disclose mess motor seek

46 Solemnity means legibility
magic neutrality seriousness untidiness

47 A ballot is used in draining
freezing grinding voting wrapping

48 Ambition means aspiration
frivolity loitering remorse slothful

49 To heed is to
escape fancy hurry notice prove

50 Lifeless means inanimate
indefinite infamous undecided untidy

51 Dignified means lonely
monstrous prominent spiritual stately

52 An opponent is an
owl antagonist officer outlaw inlet

53 Tumultuous is boisterous
hapless jocund lowly massy

54 Constancy means grudge
morsel rainfall steadfastness warfare

55 Eternally means already
always completely entirely squarely

56 Liberality means promotion
robbery reproof scandal generosity

57 A legacy is an
inheritance inscription ox ankle elf

58 A frenzy is a county
growth majority robber rage

59 To forbear means to
abstain knead ladle loan mimic

60 To be prompt is to be formal
frightful hospitable punctual purified

61 Capacity refers to
authority bloom climate habit volume

62 Shameful means dispassionate
immaterial naïve scandalous tractable

63 Romantic means perverse
sentimental shabby shameless spry

64 Meager means exceptional
scant suspicious trivial vertical

65 Indefinite means congenial
indebted lawless workmanship vague

66 To be elaborate is to be artless
complicated headstrong plain ignored

67 Ceaseless means boisterous
diminished discontented ended incessant

68 Unscrupulous means dishonest
vagrant voluntary willful zigzag

69 To sever is to
cut hurt jump tie twist

70 To quail is to
attack cower expand hunt retreat

71 Submissiveness means daring
cute heaviness wise meekness

72 Doleful means
molten nameless oriental vague rueful

73 An associate is an adversary
antagonist emigrant ensign ally

74 Covetous means avaricious
bountiful gaudy gray-headed harassed

75 A reprobate is one who is very ugly
cowardly wealthy wicked youthful

76 To impair is to
brand commend damage mingle scrape

77 Sluggish means cadaverous
inert loquacious spectral vertiginous

78 An insurrection is a fugitive
rebellion publication punishment hermit

79 Quiescent means inactive
angry perfect quick troublesome

80 Audacious means absurd
adverse casual daring hapless

Go right on to the next column.

End of Test 2. Look over your work.

Full score for easier sentences not dictated.....51✓

Number right in sentences dictated.....10✓

Sum.....61✓

Sum	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Score	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	81	82	83	84	84	85	86	86	87	87	88	89	90	90	91	92	93	94	95

Sum	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108
Score	96	97	98	99	100	101	102	103	104	106	107	108	109	110	111	112	113	114	115	115	116	117	117	118	119	121	123	125

DIRECTIONS: Draw a line under the word or phrase that makes the better sentence, as shown in the samples.

SAMPLES:

Apples is good.
~~are~~

He told me.
~~telled~~

1 He heated the water.
~~het~~

2 I calculate to go to the Fair.
~~intend~~

3 He hasn't seen anybody.
~~nobody~~

4 Add them numbers.
~~those~~

5 A bunch of ships appeared.
~~fleet~~

6 It is I.
~~me~~

7 The sun raises in the morning.
~~rises~~

8 You have give me two presents.
~~given~~

9 He found it in under the table.
~~under~~

10 I was there before you was.
~~were~~

11 Jane is prettier than Helen.
~~more prettier~~

12 He didn't know that, either.
~~neither~~

13 I have often ate oranges.
~~eaten~~

14 He seldom goes to town.
~~seldom ever~~

15 I doubt whether it ever happened.
~~that~~

16 I remember seeing him there.
~~remember of~~

17 That looks like either John or Joe.
~~either looks like~~

18 It is neither white nor black.
~~or~~

19 The truck carried a heavy cargo.
~~load~~

20 He served twenty years for his crimes.
~~sins~~

21 It was most beautiful of all.
~~the beautiful~~

22 A noun is the name of something.
~~when you name something~~

23 I asked him which one he choosed.
~~chose~~

24 The patient feels more strongly every day.
~~stronger~~

25 The man which you see is John.
~~whom~~

26 They returned again to their homes.
~~back again~~

27 I am respectfully yours.
~~respectively~~

28 We divided them among the four of us.
~~between~~

29 The baskets were all ready filled.
~~already~~

30 Had we been near we could have seen him.
~~of been~~

31 The play was a complete success.
~~howling~~

32 He was barely within speaking distance.
~~in~~

33 Each boy brought their own book.
~~his~~

34 But don't forget, however, that I am here.
~~Don't forget,~~

35 This is a course worth while pursuing.
~~worth~~

36 The enemy attacked us in the night.
~~attackted~~

Go right on to the next column.

Go right on to the next page.

Difference	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Score	20	34	37	40	42	44	46	49	51	53	56	58	60	61	62	64	66	68	70	71	73	75	76	77	79	80	81	82	84	85	86	88	89	90	91	92	93	94	95	96	97

- 37 He acted the part ^{perfect.}
perfectly.
- 38 He ^{could}
couldn't scarcely chew it.
- 39 ^{Us}
We girls are going to town.
- 40 It is superior ^{to}
than the other.
- 41 She felt his absence ^{keen.}
keenly.
- 42 Several congressmen ^{antagonized}
opposed the bill.
- 43 I liked him the best of ^{all.}
any.
- 44 He has often ^{ridden}
rode alone.
- 45 His attitude was ^{distinctively}
distinctly friendly.
- 46 I am ^{enthusiastic}
wild about my new car.
- 47 He drove the ^{carefullest}
most carefully of all.
- 48 He fell ^{off}
off of his bicycle.
- 49 They ^{all unanimously}
unanimously voted against it.
- 50 Slavery was ^{abolished}
repealed in 1863.
- 51 ^{They}
They both loved each other.
- 52 I believe in ^{observance}
observation of the Sabbath.
- 53 She invited Mary and ^{me.}
myself.
- 54 I am certain that she ^{shall}
will come.
- 55 Do not ^{cherish}
pursue an idle fancy.
- 56 She ^{laid}
lay on the couch and slept.
- 57 She likes Mary and ^{I.}
me.
- 58 I forgot his name and felt ^{disconcerted.}
discomposed.
- 59 You, the captain, ^{are}
is in command.
- 60 He ^{caught almost}
almost caught a hundred fish.
- 61 I have often ^{rang}
rung this bell.
- 62 ^{Seeing as how}
Inasmuch as I promised, I will go.
- 63 You have ^{fewer}
less letters today.
- 64 Mary is the ^{hero}
heroine of the play.
- 65 This is ^{her.}
she.
- 66 They are ^{both the}
the same color.
- 67 ^{After scolding me,}
When I had been scolded, I was sent home.
- 68 ^{Due}
Owing to lack of funds, the project failed.
- 69 If father ^{was}
were here, I would go.
- 70 The ^{spectators}
audience praised the auto show.
- 71 Everyone gave ^{himself}
themselves to rejoicing.
- 72 The family was ^{raised}
reared in the city.
- 73 The mountains inspired us with ^{amazement.}
awe.
- 74 Each of them ^{are}
is good.

End of Test 4. Look over your work.

Number right.....51 ✓
Number wrong.....20 ✓
Difference.....31 ✓

DIRECTIONS: Draw a line under the word that makes the sentence true, as shown in the samples.

SAMPLES:

A giant is a big dog man boat

The Bible is the name of a
place country book

1 Little Red Riding Hood took cakes to her
aunt cousin grandmother

2 Black Beauty was a crow dog horse

3 Billy Whiskers was a
goat mongoose pony

4 The bear in "Snow-White and Rose-Red"
was a fairy king prince

5 Troubles came from the box of
Arachne Pandora Syrinx

6 The man cast into the lions' den was
Daniel Jonah Joseph

7 Androclus removed a thorn from the foot of
a bear dog lion

8 One of Robin Hood's followers was
Duke of York John Silver Little John

9 Venus was goddess of
love the chase the harvest

10 "Ben Hur" is famous for the
chariot race long siege great storm

11 Dr. Dolittle lived in
Polynesia Puddleby Pushmi

12 Thor lost his
armor chariot hammer

13 Hans Brinker lived in
Germany Holland Switzerland

14 Lancelot was a king knight sailor

15 Don Quixote was a
king knight sailor

16 "Twenty Thousand Leagues Under the Sea"
tells of Puck Captain Nemo Uncas

17 The word "courtship" reminds us of
John Edwards Miles Standish Wm. Penn

18 "Huckleberry Finn" was written by
Cooper Mark Twain Stevenson

Go right on to the next column.

19 "A Christmas Carol" was written by
Dickens Thackeray Wiggin

20 The naiads were
islands mountains nymphs

21 Sindbad was a dwarf knight sailor

22 "Treasure Island" tells about
Long John Micawber Uncas

23 The people who went into exile were the
Egyptians Jews Persians

24 Sir Launfal sought the
Golden Fleece Holy Grail Silver Buddha

25 "Toby Tyler" tells about a
circus horse race rooster fight

26 "Little Women" was written by
Alcott Brown Sedgwick

27 Prometheus was set free by
Hercules Phaeton Vulcan

28 The Swiss Family Robinson lived as
merchants pioneers sailors

29 "The Last of the Mohicans" is about
fairies Indians sailors

30 "The Prince and the Pauper" was written by
Tarkington Mark Twain Thackeray

31 A king famous for his wisdom was
David Pilate Solomon

32 The Dead Sea is in
Babylonia Palestine Syria

33 "The Call of the Wild" was written by
Cooper Jack London Mark Twain

34 "Hamlet" was written by
Coleridge Scott Shakespeare

35 Lord Fauntleroy always called his mother
darling dearest honey

36 The story of "The Covered Wagon" is a
story of life about 1776 1850 1925

37 "The Lady of the Lake" was written by
Dryden Gray Scott

38 Shakespeare was noted for his
novels plays short stories

39 The king ruling at the time of Jesus' birth
was David Herod Solomon

Go right on to the next page.

Difference	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Score	20	34	37	40	43	46	49	52	55	58	61	64	67	69	72	75	77	78	80	81	82	84	85	86	87	88	89	90	91	91	92	93	94	95	95	96	97	98	99	100	101

40 Andromeda was rescued from the sea monster by Perseus Pygmalion Sir Cedric

41 Punch and Judy are actors elves puppets

42 Mrs. Wiggs was always cross happy despondent

43 Ichabod Crane is a character from Cooper Irving Mark Twain

44 "The Crimson Sweater" is a story of athletics love war

45 Mowgli grew up with Indians lions wolves

46 The god who supported the heavens was Achilles Atlas Hercules

47 Mecca was the birthplace of Buddha Mohammed Moses

48 Kenilworth was a castle city man

49 Gene Stratton Porter wrote books of adventure romance the sea

50 Ben Hur was a Greek Jew Turk

51 The scene of "Evangeline" is laid in Acadia Maryland Pennsylvania

52 "The Man Without a Country" was written by Aldrich Emerson Hale

53 Asgard is the home of the Greek gods Norse gods Roman gods

54 "Seventeen" was written by Kelland Mark Twain Tarkington

55 Pan played on a harp a lute pipes

56 Roland was a knight of Charlemagne Arthur Frederick the Great

57 Helen's Babies were Budge and Toddie Mary and Jane Tom and Pat

58 The blind poet was Keats Milton Shelley

59 "A Midsummer Night's Dream" is a play poem song

60 "Bob, Son of Battle" tells of a boy dog horse

Go right on to the next column.

61 Odin was a god of the Greeks Norse Romans

62 Caesar's funeral oration was given by Anthony Cicero Cassius

63 The woman who turned into a pillar of salt was the wife of Cain Esau Lot

64 Lobo was a bear fox wolf

65 "Oliver Twist" tells about Artful Dodger Long John Silver Peggotty

66 Holmes wrote "The Spy" "The Deacon's Masterpiece" "Kim"

67 Daddy Long Legs was a doll man spider

68 "Break, Break, Break" was written by Browning Goldsmith Tennyson

69 "Elegy Written in a Country Churchyard" was written by Poe Gray Rice

70 The goddess born from the head of Jupiter was Freya Juno Minerva

71 "A Perfect Tribute" is a story of Lincoln Roosevelt Washington

72 A character in "The Lady of the Lake" is Elaine Gabriel Roderick Dhu

73 The friend of the Three Musketeers was D'Artagnan Dick Shelton Sir Nigel

74 "The Trail of the Sandhill Stag" was written by Roberts Seton White

75 "Lead, Kindly Light" was written by Carlyle Cardinal Newman Phillips Brooks

76 "Captains Courageous" is about Ben Gunn Diska Troop John Silver

77 "Flow Gently, Sweet Afton" was written by Burns Keats Tennyson

78 "The Ancient Mariner" was written by Browning Coleridge Longfellow

79 "Annabel Lee" was written by Poe Longfellow Wordsworth

80 "The Story of a Bad Boy" tells of setting fire to a stagecoach hayrack house

End of Test 5. Look over your work.

Number right 38
Number wrong 22 ÷ 2 = 11
Difference 27

DIRECTIONS: Draw a line under the word or phrase which makes the sentence true.

- 1 The Pilgrims came from England France Spain
- 2 Columbus made his first voyage to America in 1492 1620 1776
- 3 The canal which was opened for traffic in 1914 was the Erie Suez Panama
- 4 Columbus received his financial support from Portugal Spain Italy
- 5 The members of the American Legion are foreigners laborers ex-soldiers
- 6 The highest officer of a city is the alderman chief of police mayor
- 7 The greatest Northern general of the Civil War was Grant Sheridan McClellan
- 8 The man who invented the process of hardening rubber was Edison Ford Goodyear
- 9 The first French settlers in America were farmers miners traders
- 10 An ally of America in the Revolutionary War was Prussia Holland France
- 11 The Spanish missions were forts churches castles
- 12 The first Englishman to sail around the world was Raleigh Nelson Drake
- 13 A voter has to be at least 18 years old 20 years old 21 years old
- 14 The discoverer of the Pacific Ocean was Balboa Magellan De Soto
- 15 The Quakers are a tribe of Indians political party religious sect
- 16 A famous Confederate general was Gage Stonewall Jackson Meade
- 17 The Louisiana Purchase was made during the presidency of Jefferson Madison Monroe
- 18 The "Rough Riders" were led by Pershing Roosevelt Sheridan
- 19 The term of the President of the United States is 2 years 4 years 6 years

Go right on to the next column.

- 20 The population of the United States in 1920 in millions was about 55 90 110
- 21 In 1819 Florida was purchased from France England Spain
- 22 The battle of San Juan Hill was fought in the World War Civil War War with Spain
- 23 The turning point of the Civil War was at Antietam Gettysburg Pittsburg Landing
- 24 Spain's treatment of Cuba was harsh wise liberal
- 25 The average number of children per American family is about 1 3 5
- 26 In the United States the usual size of a jury is 6 12 16
- 27 The United States Military Academy is located in West Point Annapolis Washington
- 28 States are not permitted to establish schools levy tariffs pass laws
- 29 Valley Forge relates to the Civil War Revolutionary War War of 1812
- 30 The Missouri Question concerned emigration slavery tariffs
- 31 The reaper was invented by McCormick Howe Watt
- 32 The number of children employed in mills is increasing decreasing about constant
- 33 The Orient refers to Europe Africa Asia
- 34 The modern process of manufacturing steel was invented by Bessemer Edison Bell
- 35 The American Revolutionary War began in 1762 1775 1783
- 36 The second President was Adams Jefferson Madison
- 37 A famous early traveler was Marco Polo William Penn Peter Stuyvesant
- 38 The U. S. Food Administrator during the World War was Hooover Pershing Wilson
- 39 Several famous debates were held between Lincoln and Clay Webster Douglas
- 40 Parliaments are similar to courts cabinets legislatures

Go right on to the next page.

Difference	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Score	20	34	38	42	45	48	51	54	57	60	62	64	66	68	69	71	73	74	76	77	78	80	81	82	83	85	86	87	88	89	89	90	91	92	93	93	94	95	96	97	98

- 41 The crime which brings the greatest punishment is larceny manslaughter murder
- 42 A firm believer in the League of Nations was Roosevelt Wilson Lodge
- 43 The Emancipation Proclamation was issued by Jefferson Lincoln Washington
- 44 The "Lusitania" was an airship a battleship an ocean liner
- 45 Our federal government refers to the government of the states nation cities
- 46 The Virginia and Kentucky Resolutions opposed war Alien and Sedition Acts Canada
- 47 The Boxer Rebellion occurred in Japan Cuba China
- 48 A famous seaport of 1500 was Venice Alexandria Rome
- 49 Cabinet officers can be removed from office only by the President House Senate
- 50 "Direct legislation" is provided for by the initiative recall Volstead law
- 51 A serious financial panic occurred in 1837 1861 1865
- 52 The X.Y.Z. Affair occurred with France England Japan
- 53 The army can be called forth only by Congress Supreme Court Sec'y of War
- 54 A city is most likely to own its electric lights gas plant water system
- 55 Next in importance to agriculture in 1860 was mining lumbering manufacturing
- 56 Haig commanded the forces of France Italy England
- 57 The Oregon boundary was settled during the presidency of Polk Tyler Garfield
- 58 America's worst failure in the War of 1812 was on the sea in Canada at New Orleans
- 59 The Saar Valley reminds us of the World War War of 1812 Mexican War
- 60 A well-known tariff law bears the name of Garfield Arthur McKinley
- 61 A President who was impeached but acquitted was Jackson Johnson Grant
- 62 The United States disputed the control of Yap with Japan China Chile
- 63 The Constitutional Amendment abolishing slavery was the 11th 12th 13th
- 64 Heavy governmental expenses are often met by the sale of stocks shares bonds
- 65 The Emancipation Proclamation freed slaves numbering in millions about 3 1 9
- 66 The Constitution assigns judicial powers to Congress Supreme Court the President
- 67 The chief national problem in 1865 was slavery states' rights reconstruction
- 68 A famous early educator was Horace Mann Henry Clay Andrew Jackson
- 69 The Spanish Armada was destroyed in 1898 1588 1492
- 70 After the World War Bohemia became part of Czechoslovakia Germany Russia
- 71 A city with especially well-planned streets is Boston Brooklyn Washington
- 72 The Lewis and Clark Expedition was sent out by Jefferson Washington Hamilton
- 73 Typical life in early New England was that of the plantation small town open country
- 74 The inventor of the incandescent electric light is Edison Bell Marconi
- 75 The Red Cross was founded by Clara Barton Jenny Lind Rockefeller
- 76 A state that was once an independent country is Missouri Ohio Texas
- 77 Impeachments are tried by the House Senate Cabinet
- 78 The chief cause of the Mexican War was disputed territory immigration oil rights
- 79 Burgoyne surrendered his army at Saratoga Trenton Yorktown
- 80 The Gadsden Purchase refers to military supplies ships land

End of Test 6. Look over your work.

Number right 30
 Number wrong 12 ÷ 2 = 6
 Difference 24

Go right on to the next column.

41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
99	100	101	102	102	103	104	105	105	106	107	107	108	109	110	111	112	113	114	116	117	119	120	121	123	124	125	127	128	129	130	131	133	134	136	137	139	140	142	145

DIRECTIONS: Draw a line under the word which makes the sentence true.

- 1 Christmas comes in December January July
- 2 The Eskimos are great fishermen miners farmers
- 3 The shape of the earth is flat square round
- 4 The largest bodies of water are called seas oceans lakes
- 5 Cotton grows on a bush vine tree
- 6 The sun rises in the west east south
- 7 Silk is produced extensively in Australia Japan New Zealand
- 8 The Panama Canal Zone is controlled by France Mexico United States
- 9 Animals provide us with cotton leather linen
- 10 Decayed plants help to make soils poorer heavier richer
- 11 Granite is a kind of tree rock fruit
- 12 The camel is commonly found in Arabia Switzerland Chile
- 13 A city having excellent water transportation is New Orleans Indianapolis Denver
- 14 Much tropical fruit is raised in Florida Kentucky Tennessee
- 15 Very favorable conditions for manufacturing are found in England Russia Turkey
- 16 A state having very little rainfall is Nevada Washington Pennsylvania
- 17 Gold is mined extensively in Ohio Pennsylvania Colorado
- 18 The New England Indians fertilized corn with fish manure lime
- 19 The city of Atlanta is in Florida Georgia Tennessee
- 20 Reindeer are common in Italy India Siberia

Go right on to the next column.

- 21 A river bounding Mexico on the north is the Orinoco Rio Grande Colorado
- 22 A state having no seacoast is Maryland Idaho South Carolina
- 23 The farm crop of most importance in Brazil is coffee corn potatoes
- 24 The British capital is Liverpool London Edinburgh
- 25 A principal industry of Switzerland is making watches cotton cloth steel
- 26 A country with a highly developed railroad system is Egypt Germany China
- 27 Czechoslovakia is in Asia Europe Africa
- 28 Zinc is a product of mining lumbering agriculture
- 29 Persia is famous for its schools rivers rugs
- 30 Seals are valuable chiefly for their meat furs oil
- 31 A country composed of islands is Japan Mexico Arabia
- 32 The central part of the U.S. is chiefly mountains plains plateaus
- 33 The Erie Canal is in Canada New York Pennsylvania
- 34 A great cattle country is Ireland Congo Argentina
- 35 There are many diamond mines in Mexico Japan South Africa
- 36 An important river of Europe is the Indus Yukon Danube
- 37 A very important Canadian industry is weaving iron mining fishing
- 38 Day and night are caused by the earth's rotation acceleration inclination
- 39 A country situated on an island is England Italy Portugal
- 40 One of the pests attacking the cotton is the gopher gypsy moth boll weevil

Go right on to the next page.

<i>Difference</i>	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
<i>Score</i>	20	34	38	42	44	46	48	50	52	54	56	57	58	59	60	62	63	64	66	67	69	70	71	72	73	73	74	75	76	76	77	78	79	80	81	82	83	84	85	86	87

- 41 A principal export from Australia to Boston is sugar corn wool
- 42 Very little wheat is grown in Florida Indiana Michigan
- 43 Buddhism is a common religion in India France United States
- 44 When it is noon in New York, it is 9 A.M. in Omaha Portland, Ore. Cincinnati
- 45 A country with about the same latitude as Alaska is Norway Spain Japan
- 46 One of the greatest lumbering states is Kansas Illinois Washington
- 47 The sea between Europe and England is the Baltic North Caspian
- 48 The continent having the most irregular coast line is Europe South America Africa
- 49 The Colorado River is most noted for its shipping canyon fishing
- 50 Louisiana is best adapted for mining fishing agriculture
- 51 Canton is a city in China France Japan
- 52 A heavy meat-eating country is Greece United States China
- 53 Mexico is ruled by a czar king president
- 54 A monsoon is a kind of plain plateau storm
- 55 A country ruled by a king is France Denmark Switzerland
- 56 The nation having the greatest merchant marine is France United States Gt. Britain
- 57 An important factor in the growth of Los Angeles is mines water power climate
- 58 A principal lake section of the U.S. is the south west northeast
- 59 A group of islands is called an isthmus archipelago avalanche
- 60 The mountains in northern India are the Himalayas Abyssinia Caucasus
- 61 The largest river in the world is the Amazon Mississippi Congo
- 62 The path of the earth around the sun is its axis orbit diameter
- 63 The origin of the population of Argentina is chiefly European Indian Asiatic
- 64 Weather bureau maps show wind direction by isotherms isobars arrows
- 65 In most South American countries they speak Portuguese English Spanish
- 66 Belfast is in England Belgium Ireland
- 67 A seaport of the Pacific Ocean is Valparaiso Copenhagen Havana
- 68 The most backward continent is Africa Asia South America
- 69 The steppes are plains of India Africa Russia
- 70 Growing corn needs heavy rainfall warm nights dry winters
- 71 Alcohol is made from gasoline grains oils
- 72 The Cape of Good Hope is at the southern end of South America Africa India
- 73 An important rubber-manufacturing center is Birmingham Akron Denver
- 74 The state producing the most iron ore is Pennsylvania Minnesota Ohio
- 75 The mountains separating Russia and Siberia are the Ural Pyrenees Caucasus
- 76 Meridians are used in measuring longitude altitude latitude
- 77 The largest country in area in North America is Mexico Canada United States
- 78 A famous wheat district is the valley of the Red River Colorado River Delaware River
- 79 Sponges are obtained from Bering Sea Great Salt Lake Mediterranean Sea
- 80 The width of the Temperate Zone is $23\frac{1}{2}^{\circ}$ 90° 43°

End of Test 7. Look over your work.

Number right.....49

Number wrong.....13 ÷ 2 = 6

Difference.....43

Go right on to the next column.

41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
89	90	91	92	94	95	96	97	98	99	100	101	102	104	105	106	108	109	110	111	112	113	115	116	117	118	120	121	122	123	125	126	127	128	129	130	132	133	135	137

DIRECTIONS: Draw a line under the word or phrase which makes the sentence true.

- 1 The body is covered by
muscles bones skin
- 2 Tobacco is especially harmful to
young children men women
- 3 A poor food for a child's breakfast is
milk bread beans
- 4 The heart pumps water air blood
- 5 The nerves of the eye are stimulated by
sound odors light
- 6 The heart is found in the
chest spinal column abdomen
- 7 Two bones meet to form a
ligament tendon joint
- 8 The body gets its oxygen from
water air food
- 9 The movement of the blood is called
circulation digestion respiration
- 10 Much foot trouble is due to poor food
too much walking improper shoes
- 11 Vaccination is often used to prevent
malaria smallpox pneumonia
- 12 The "telephone system" of the body is the
circulation nerves muscles
- 13 Ventilation is concerned with obtaining
good food fresh air sleep
- 14 An example of an alcoholic drink is
lemonade whisky soda-water
- 15 The framework of the body is the
skeleton blood vessels muscles
- 16 Bleeding should be treated by
giving alcohol inducing vomiting bandaging
- 17 One of the skin senses is
temperature taste odor
- 18 The organ of the mind is the
heart spinal cord brain
- 19 Pneumonia is a disease of the
heart muscles lungs
- 20 The principal part of the nervous system is
the brain medulla cord

Go right on to the next column.

- 21 Mosquitoes breed chiefly in
manure milk water
- 22 Poor ventilation results from heating by
oil stoves fireplaces stoves
- 23 The common house fly often lays its eggs in
leaves manure water
- 24 "Prohibition" concerns the sale of
tobacco alcohol drugs
- 25 The energy required by the muscles is fur-
nished from the nerves food bones
- 26 A hindrance to good breathing is
exercise tight clothing cold air
- 27 Hookworm disease in the United States is
commonest in the South North East
- 28 Muscle action is controlled by the
nerves bones blood vessels
- 29 Peas are eaten largely for their
fats sugar protein
- 30 Food remains in the stomach about
15 minutes 3 hours 1 day
- 31 The small intestine is a part of the system of
digestion circulation respiration
- 32 A food containing considerable oil is
rice potatoes walnuts
- 33 One object of respiration is the absorption of
oxygen carbon dioxide nitrogen
- 34 A good heat-producing food is
olive oil turnips watermelons
- 35 Reading lights should be placed
at the rear in front below
- 36 Fresh fruits and vegetables are valuable for
their vitamins protein fats
- 37 A molar is a joint tooth nerve
- 38 The nerve of sight is the
olfactory auditory optic
- 39 The forcing of air from the lungs is called
inspiration expiration oxidation
- 40 The nutrient present in all fresh fruits is
starch fat sugar

Go right on to the next page.

Difference	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Score	24	44	46	48	50	52	54	56	57	59	61	62	64	65	67	68	70	71	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	90	91	92	93	94	95	96

- 41 A disease of the nose and throat is
sciatica neuritis catarrh
- 42 Chemicals which kill bacteria are called
germicides solvents laxatives
- 43 Tissue-building material is furnished largely
by fats salts proteins
- 44 The spinal column is made up of
vertebrae ribs phalanges
- 45 The esophagus empties into the
stomach liver pancreas
- 46 An antidote is a
poison disease remedy
- 47 The branches of the trachea are called the
eustachian tubes bronchial tubes pleurae
- 48 Quinine is a remedy for
tuberculosis smallpox malaria
- 49 Involuntary muscles control movements of
the legs intestines arms
- 50 Iron is needed mainly by the
bones blood teeth
- 51 The most powerful muscles of the body are
those of the arm head back
- 52 Potatoes are rich in
carbohydrates fats proteins
- 53 Dust and germs are kept from the lungs by
the epiglottis capillaries mucous membranes
- 54 The pancreas is a part of the system of
nerves digestion circulation
- 55 Inspiration and expiration are together
called perspiration respiration absorption
- 56 Hay fever is caused by
germs catarrh pollen
- 57 The aorta is a
blood vessel nerve muscle
- 58 Saliva acts on
starches sugars proteins
- 59 Bacteria reproduce by means of
eggs seeds splitting
- 60 Digested food is taken into the blood in the
stomach pancreas intestines
- 61 The bursting of a blood vessel in the brain
causes headache apoplexy asphyxiation

Go right on to the next column.

- 62 An example of a one-celled animal is the
frog fly amoeba
- 63 The tendons are held close to the bones by
muscles cartilages ligaments
- 64 Hemoglobin is a substance found in the
red corpuscles stomach brain
- 65 In eliminating urea the kidneys are assisted
by the liver lungs intestines
- 66 The irregular bones of the wrist are called
metatarsals phalanges carpals
- 67 The Black Death was
bubonic plague typhoid fever malaria
- 68 The air sacs contain
capillaries cilia valves
- 69 Poor posture is chiefly due to faulty
muscles bones nerves
- 70 The two upper cavities in the heart are the
auricles ventricles valves
- 71 Muscular coördination is largely regulated
by the cerebrum pons cerebellum
- 72 A good tissue-building food is
lean beef cabbage carrots
- 73 Diabetic persons are helped by taking
iodine thyroid extract insulin
- 74 The number of coats in the eye is 2 3 4
- 75 A waste product of muscle action is
oxygen energy lactic acid
- 76 The bone of the upper leg is the
femur radius tibia
- 77 The red corpuscles in a drop of blood num-
ber hundreds thousands millions
- 78 Trypsin is secreted by the
liver stomach pancreas
- 79 Tuberculosis of the lymph glands is called
scrofula mumps dysentery
- 80 The enzyme of the saliva is called
ptyalin pepsin trypsin

End of Test 8. Look over your work.

Number right 53
Number wrong 10 ÷ 2 = 5
Difference 48

41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
97	98	99	100	101	102	103	104	105	106	108	109	110	112	113	114	116	117	119	120	121	123	124	126	127	129	130	132	133	135	137	138	140	142	143	145	147	149	151	153

DIRECTIONS: Find all the answers as quickly as you can. Write the answers on the dotted lines. Use the margins to figure on.

1 Charles has 6 brown rabbits and 5 white ones. How many rabbits has he?

Answer 11

2 At a school picnic 9 boys and 15 girls went swimming. How many went swimming?

Answer 24

3 Jim has 3 marbles, John has 8, and Bill has 9. If they put them all together, how many will there be?

Answer 20

4 A hen had 9 chicks but 3 of them died. How many were left?

Answer 6

5 Alice gathered 18 roses and took a dozen of them to a friend. How many did she keep?

Answer 6

6 What is the cost of 3 boxes of dates at 21 cents a box?

Answer 63

7 A freight train had 16 cars. Seven of them were box cars. The others were flat cars. How many flat cars were there?

Answer 9

8 There were 100 people at a school play in the afternoon and 150 in the evening. How many people went to the two performances?

Answer 250

9 Three boys together gathered 21 bushels of walnuts. If they shared them equally, how many bushels did each boy get?

Answer 7

10 Bob bought a dozen handkerchiefs at the rate of 3 for \$1. How much did he pay for them?

Answer 33

11 Mr. Jones bought a new car for \$975. The dealer allowed him \$325 for his old car. How much did he have to pay in addition to the allowance for the old car?

Answer 650

Go right on to the next column.

12 Sarah sleeps ten hours every night. If she goes to sleep at nine o'clock, when does she wake up?

Answer 8

13 A man paid the street-car fare for himself and two friends. If the fare is 7 cents, how much change should he receive from a half dollar?

Answer 79

14 How many pounds of popcorn will be needed to plant a 30-acre field if 6 lb. are needed for one acre?

Answer 180 lb.

15 Jack had no marbles so he bought as many 3-cent marbles as he could get for 15 cents and then Tom gave him 2 more. How many did Jack have then?

Answer 7

16 Mrs. Fox started a savings account by depositing \$85. The next month she deposited \$75. A few days later she drew out \$40. What was her balance in the bank?

Answer 120

17 A class gave a candy sale and made \$23 with which they wish to buy a picture. The picture costs \$30 and the 20 pupils in the class decide to share the rest of the cost equally. How much will it cost each?

Answer 1

18 In each 21 pounds of milk there is a pound of milk sugar. How many pounds of milk sugar are there in 1806 lb. of milk?

Answer 86

19 A camping party took 12½ lb. of bacon for a 5-day trip. How much did that allow for each day?

Answer 2½ lb.

20 Jim has 20 cents to spend for marbles. He is going to buy 2 at 3 cents each and spend the remainder for 2-cent marbles. How many will he get altogether?

Answer 9

Go right on to the next page.

No. Rt.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Score	3	12	21	29	34	39	44	48	53	58	61	64	67	70	74	77	80	83	85	88	91	94	96	98	100	102	104	105	107	109	110	112	114	115	117	119	120	122	123	125	127

21 When oranges are 2 for 5 cents, how many can I buy for 60 cents?

Answer 18

22 Milk sells at 12 cents a quart. At this rate, how much will 12 gallons cost?

Answer 144

23 When \$1.50 will buy 5 lb. of mixed nuts, how much will \$2.40 buy at the same rate?

Answer 8

24 Tom has just 4 weeks of vacation and wishes to spend it in a city which it takes two days to reach by train. How many days can he spend in the city?

Answer 28

25 Frank gets 30 cents for every \$1.50 magazine subscription that he sells. What per cent is his commission?

Answer 20

26 A recipe for lobster salad read, "with two cups of lobster meat use $\frac{1}{4}$ cup of chopped celery." How much chopped celery should be added to 5 cups of lobster meat?

Answer $1\frac{1}{4}$

27 A box of 12 dozen oranges cost a dealer \$4.80. He sold them at 50 cents a dozen. How much gross profit did he make on each dozen oranges?

Answer 280

28 A dealer profits 6 cents on a half-dozen buttons. How many dozen must he sell to make \$12?

Answer 2

29 Jack pays 3 cents for a paper and sells it for 5 cents. What per cent of the selling price is his profit?

Answer 2

30 A man dug 60 bu. of potatoes from $\frac{3}{4}$ of an acre of ground. At this rate, how many bushels should he get from 4 acres?

Answer 80

31 A boy bought 300 oranges at \$2.75 per hundred and sold all of them at the rate of 3 for 10 cents. How much did he make if we ignore the cost of doing business?

Answer 10

32 A boy made a motor-boat trip in $3\frac{1}{2}$ hours when traveling at the average rate of 6 miles an hour. If he had increased his rate by one mile an hour, how long would it have taken him?

Answer $2\frac{1}{2}$

33 Mrs. Jackson bought 10 shares of Golden Oil at par (\$50). No dividends were paid, and at the end of two years she sold for \$23 a share. Not counting brokerage charges and interest, how much had she lost?

Answer 270

34 A tennis court is 36 feet wide and 78 feet long. How many yards is it around the court?

Answer 24

35 A recipe calls for 5 lb. of white flour to 3 lb. of graham flour. How much white flour must be used to make 16 lb. of such a mixture?

Answer 26.67

36 What does one dollar compounded annually at 10 per cent amount to in 2 years?

Answer 1.21

37 A man loaned a friend \$300. In a year and 8 months the money was returned with \$30 interest. What rate of interest was paid?

Answer 10

38 A ladder is standing against a wall in such a way that the base is 12 ft. from the wall and the top of the ladder is 16 ft. from the ground. How long is the ladder?

Answer 20

39 What is the cost of insuring a building valued at \$24,000 if it is insured for 80 per cent of its value at the rate of 15 cents per \$100 of insurance?

Answer 3600

40 A boy made \$1.60 by buying apples at 6 for 8 cents and selling them 3 for 8 cents. How many did he sell?

Answer 40

Go right on to the next column.

End of Test 9. Look over your work.

DIRECTIONS: Get the answers to these examples as quickly as you can without making mistakes. Look carefully at each example to see what you are to do.

Begin here.

(1)

Add

$$\begin{array}{r} 6 \\ 1 \\ \hline 7 \end{array}$$

(2)

Add

$$\begin{array}{r} 5 \\ 0 \\ \hline 5 \end{array}$$

(3)

Add

$$\begin{array}{r} 7 \\ 4 \\ 3 \\ 5 \\ \hline 19 \end{array}$$

(4)

Subtract

$$\begin{array}{r} 8 \\ 3 \\ \hline 5 \end{array}$$

(5)

Add

$$\begin{array}{r} 17 \\ 5 \\ \hline 22 \end{array}$$

(6)

Subtract

$$\begin{array}{r} 12 \\ 5 \\ \hline 7 \end{array}$$

(7)

Subtract

$$\begin{array}{r} 16 \\ 4 \\ \hline 12 \end{array}$$

(8)

$$2 \times 5 = 10$$

(9)

Add

$$\begin{array}{r} 37 \\ 41 \\ 26 \\ 55 \\ \hline 159 \end{array}$$

(10)

Subtract

$$\begin{array}{r} 15 \\ 9 \\ \hline 6 \end{array}$$

(11)

Subtract

$$\begin{array}{r} 765 \\ 327 \\ \hline 438 \end{array}$$

(12)

$$2 \overline{) 4}$$

(13)

Add

$$\begin{array}{r} 26890 \\ 58475 \\ 43261 \\ \hline 128926 \end{array}$$

(14)

Multiply

$$\begin{array}{r} 253 \\ 6 \\ \hline 1518 \end{array}$$

(15)

$$0 \times 4 = 0$$

(16)

$$10 \div 2 = 5$$

(17)

$$8 \overline{) 59} \quad 7 \text{ and } 3 \text{ remainder}$$

(18)

Add

$$\begin{array}{r} 24 \\ 12\% \\ \hline 4.8 \end{array}$$

(19)

Subtract

$$\begin{array}{r} 53212 \\ 34563 \\ \hline 18649 \end{array}$$

(20)

$$9 \overline{) 58}$$

(21)

$$2 \overline{) 15.8} \quad 7.9$$

(22)

$$\frac{1}{3} \text{ of } 156 =$$

(23)

Multiply

$$\begin{array}{r} 4789 \\ 76 \\ \hline 30668 \end{array}$$

(24)

Subtract

$$\begin{array}{r} 62\frac{1}{3} \\ 37\frac{1}{3} \\ \hline 25\frac{2}{3} \end{array}$$

(25)

$$\frac{2}{10} \times \frac{3}{5} = \frac{6}{50} = \frac{3}{25}$$

Go right on to the next page.

(26)

$$\frac{7}{8} \times \frac{5}{7} =$$

(27)

$$\begin{array}{r} \text{Add} \\ 4\frac{1}{2} \\ 1\frac{1}{3} \\ \hline \end{array}$$

(28)

$$\begin{array}{r} \text{Subtract} \\ 42\frac{5}{6} \\ 28\frac{1}{6} \\ \hline \end{array}$$

(29)

$$\begin{array}{r} \text{Add} \\ 38\frac{3}{10} \\ 27\frac{7}{10} \\ \hline \end{array}$$

(30)

$$\begin{array}{r} \text{Subtract} \\ \frac{3}{4} \\ \frac{2}{5} \\ \hline \end{array}$$

(31)

$$\begin{array}{r} \text{Add} \\ 36\frac{1}{2} \\ 32\frac{3}{10} \\ \hline \end{array}$$

(32)

$$\frac{2}{3} \div \frac{2}{3} =$$

(33)

$$\frac{4}{7} \div \frac{4}{9} =$$

(34)

$$\begin{array}{r} \text{Subtract} \\ 66\frac{1}{8} \\ 58\frac{3}{8} \\ \hline \end{array}$$

(35)

$$29 \overline{) 46545}$$

(36)

$$\frac{5}{6} \times \frac{10}{11} =$$

(37)

$$58.25 - 2.9 =$$

(38)

$$\begin{array}{r} \text{Multiply} \\ 65.84 \\ 5.06 \\ \hline \end{array}$$

(39)

$$25 \overline{) 1100}$$

(40)

$$1\frac{1}{12} + \frac{5}{6} + \frac{3}{4} =$$

(41)

$$\begin{array}{r} \text{Add} \\ \frac{1}{6} \\ \frac{9}{10} \\ \hline \end{array}$$

(42)

$$\frac{7}{10} \times \frac{4}{15} =$$

(43)

$$\begin{array}{r} \text{Subtract} \\ 205\frac{1}{2} \\ 85\frac{3}{4} \\ \hline \end{array}$$

(44)

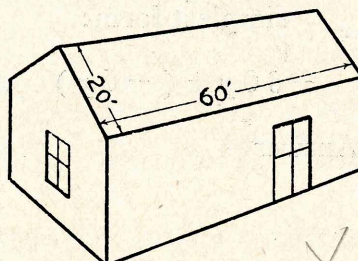
$$\begin{array}{r} \text{Subtract} \\ 212\frac{3}{10} \\ 39\frac{5}{6} \\ \hline \end{array}$$

(45)

$$.6 \overline{) 3624}$$

(47)

Find the total roof surface of this building.



Answer =

(46)

50 is what per cent of 200?

Answer =

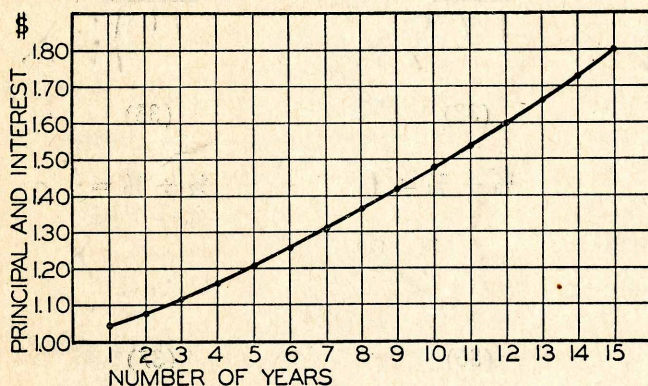
(48)

$$\begin{array}{r} \text{Add} \\ 22\frac{3}{10} \\ 27\frac{5}{6} \\ \hline \end{array}$$

Turn the page and go right on.

(49)

The graph below shows, year by year, the amount of \$1.00 invested at 4% interest compounded annually.



What is a dollar worth at the end of the 12th year?

Answer =

(51)

$$2 \overline{) 3 \text{ yd. } 2 \text{ ft. } 4 \text{ in.}}$$

(52)

$$\begin{array}{r} \text{Multiply} \\ 6794 \\ 4008 \\ \hline \end{array}$$

(53)

$$\begin{array}{r} \text{Multiply} \\ -6 \\ +4 \\ \hline \end{array}$$

(54)

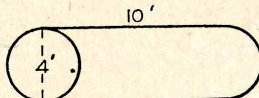
$$(4)^3 =$$

(55)

$$\begin{array}{r} \text{Add} \\ 7x^2 \\ -4x^2 \\ \hline \end{array}$$

(56)

Find the volume of this cylinder.



Volume =

(57)

Principal = \$150

Rate = 7%

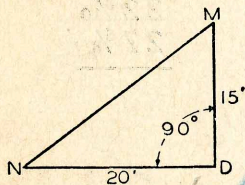
Time 1 yr. 6 mo.

Find amount due at maturity.

Answer =

(58)

Find the length of side MN.



MN =

(59)

Write this expression in the simplest form:

$$-30y + (-6y)$$

Answer =

(60)

$$\text{If } V = \frac{\pi r^2 h}{3},$$

write the formula for h .

$h =$

End of Test 10. Look over your work.

Number right	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Score	3	7	13	19	25	28	31	34	36	37	39	42	44	47	50	53	56	58	60	61	62	64	65	67	68	70	71	73	74	76	78

Number right	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Score	80	83	86	88	90	92	93	95	96	98	101	104	107	109	110	111	112	113	113	114	114	115	115	116	116	117	118	120	122	124

ELWELL-FOWLKES BOOKKEEPING TEST

By FAYETTE H. ELWELL, B.A., C.P.A.

Professor of Accounting, University of Wisconsin

and JOHN GUY FOWLKES, Ph.D.

Professor of Education, University of Wisconsin

1A

TEST 1: FORM A

For End of First Semester

Do not open this booklet until you are told to do so. Fill in these blanks, giving your name, age, etc. Write plainly.

Name
(First name, initial, and last name)

Age last birthday 15 years. Class Sophomore

School Senior High Teacher Charles Pitt

City Parsons Date Jan 19 32

DIRECTIONS. This test consists of nine parts. When you have finished one part, go back over it to make sure that all your answers are correct; then go on to the next part. Each part is preceded by directions telling just how to answer the questions. Read the directions carefully before answering the questions. Wait until you are told to turn this page.

PART	SCORE
I	<u>3</u>
II	<u>2</u>
III	<u>0</u>
IV	<u>5</u>
V	<u>0</u>
VI	<u>0</u>
VII	<u>6</u>
VIII	<u>0</u>
IX	<u>4</u>
Total Score	<u>20</u>

To the Scorer:
The two columns under SCORE are to help you keep the tens and units figures in columns.

Published by World Book Company, Yonkers-on-Hudson, New York, and Chicago, Illinois

Copyright 1928 by World Book Company. Copyright in Great Britain

All rights reserved. EFBT: 1A-1

PRINTED IN U.S.A.

PART I. GENERAL THEORY

DIRECTIONS. Below are some statements, some of which are true and some of which are false. You will notice that *True* and *False* are printed after each statement. If you think a statement is true, underline *True*; and if you think a statement is false, underline *False*. Classify only the statements about which you feel sure. *Do not guess.*

SAMPLE. In bookkeeping, values received are called credits.... True False

1. In every business transaction, there is an exchange of one value for another..... True False
2. The analysis of a business transaction into its debit and credit elements is called posting..... True False X
3. A trial balance of the ledger taken before the books are closed does not differ from a trial balance taken immediately after the books are closed..... True False X
4. If the cost of merchandise sold exceeds the sales, the result is a gross loss..... True False
5. If the assets of a business exceed the liabilities, the business is insolvent..... True False X
6. The Profit and Loss account shows the total proprietary interest (or proprietorship) in the business..... True False X
7. The exchange of one asset for another of equal value does not affect the proprietary interest (or proprietorship)..... True False X
8. The amount of fuel consumed during a period should be entered in the profit and loss statement as an expense..... True False
9. The use of several books (or journals) of original entry reduces the number of postings to be made at the end of a period..... True False X
10. At the close of each period, the Interest Income (Interest Earned) account is closed into the Notes Receivable account..... True False X

*Go back and make sure your answers are correct. Then
do on to the next page.*

Number right.....3.....(Score)

PART II. GENERAL THEORY

DIRECTIONS. Below are some questions, each of which has five answers. Only one of the answers is correct. In the parentheses after each question write the number of the answer which you think is correct. In each case write only *one* number.

SAMPLE. A debit in a creditor's account indicates :

- (1) a purchase on account. (4)
- (2) a sale for cash.
- (3) a sale on account.
- (4) a payment on account.
- (5) a receipt of a note.

1. If the proprietor's Drawing (Personal) account shows a debit balance at the close of a period, it would appear (5) X
 - (1) in the balance sheet (financial statement) as a liability.
 - (2) in the balance sheet (financial statement) as an asset.
 - (3) in the balance sheet (financial statement) as a deduction from the Proprietor's Investment (Capital) account.
 - (4) in the profit and loss statement as an income.
 - (5) in the profit and loss statement as an expense.
2. The excess of the debits in the Cash account over the credits shows () X
 - (1) cash received on account.
 - (2) cash on hand.
 - (3) the investment of the proprietor.
 - (4) cash paid on account.
 - (5) cash paid for services.
3. H. L. Brown returned to H. J. Sears his written promise marked "Paid." To H. J. Sears this represents : (5) X
 - (1) a negotiable instrument.
 - (2) a bank statement.
 - (3) a statement of account.
 - (4) a check.
 - (5) a cancellation of indebtedness.
4. A debit in the Rent Expense account indicates (4)
 - (1) cash paid for services.
 - (2) a transfer to Profit and Loss.
 - (3) an increase in Proprietor's Drawing (Personal) account.
 - (4) a payment for use of store.
 - (5) cash received on account.
5. The Merchandise Sales account is classified as an income account because (/)
 - (1) it records the income derived from goods sold.
 - (2) it is not an asset account.
 - (3) it appears first in the profit and loss statement.
 - (4) it appears as a credit in the trial balance.
 - (5) it is not a liability account.

*Go back and make sure your answers are correct. Then
go on to the next page.*

Number right..... (Score)

PART III. GENERAL THEORY

DIRECTIONS. Below is a series of statements, in each of which something is omitted. On the blank after each statement, write the word or words which will make the statement complete and true in meaning.

SAMPLE.

A credit in the Cash account represents cash —. (paid)

1. The amount paid by a debtor of a business is to be recorded as a — to his account. (_____)
2. Increases in liabilities are — to the proper account. (added) X
3. The sales journal (sales book) is used as a book of — entry. (_____)
4. A net loss in the Profit and Loss account at the close of a period is transferred to the — of the Proprietor's Drawing (Personal) account. . . (_____)
5. If the inventory at the beginning of a period is not added to the purchases, the cost of goods sold will be — stated. (_____)
6. An additional investment by the proprietor is — to his Investment (Capital) account (_____)
7. Office Supplies used during a period are — of the period. (_____)
8. In the account form of a balance sheet (financial statement), the assets equal the liabilities — the proprietary interest (proprietorship). (_____)
9. Interest earned on notes received and held by the business — net profit. (_____)
10. A list of the balances of the open accounts in a ledger is called a (an) —. (entry) X

Go back and make sure your answers are correct. Then go on to the next page.

Number right. 0 (Score)

PART IV. JOURNALIZING

DIRECTIONS. Below are some questions, each of which has five answers. Only one of the answers is correct. In the parentheses after each question, write the number of the answer which you think is correct, as shown in the sample. In each case write only *one* number.

SAMPLE. Paid cash, \$100, for rent of store for month.

- | | | |
|---|---|-------|
| (1) Debit Salaries ; credit Cash.
(2) Debit Rent Expense ; credit Cash.
(3) Debit Proprietor, Drawing (Personal) ; credit Notes Payable.
(4) Debit Furniture and Furnishings ; credit Cash.
(5) Debit Proprietor, Drawing (Personal) ; credit Cash. | } | (2) |
|---|---|-------|

1. Paid the proprietor \$50 in cash as salary.

- | | | |
|--|---|-------|
| (1) Debit Proprietor, Drawing (Personal) ; credit Cash.
(2) Debit Cash ; credit Profit and Loss.
(3) Debit Salaries ; credit Cash.
(4) Debit Proprietor, Investment (Capital) ; credit Cash.
(5) Debit Salaries ; credit Proprietor, Drawing (Personal). | } | (3) |
|--|---|-------|

2. Purchased merchandise, \$275, from C. White on account.

- | | | |
|--|---|-------|
| (1) Debit Furniture and Furnishings ; credit Cash.
(2) Debit Merchandise Purchases ; credit C. White.
(3) Debit Office Supplies ; credit C. White.
(4) Debit Cash ; credit C. White.
(5) Debit Purchases Returns and Allowances ; credit Cash. | } | (2) |
|--|---|-------|

3. Received credit memorandum for \$35 from C. White for merchandise returned to him.

- | | | |
|--|---|---------|
| (1) Debit Sales Returns and Allowances ; credit C. White.
(2) Debit C. White ; credit Purchases Returns and Allowances.
(3) Debit Sales Returns and Allowances ; credit Cash.
(4) Debit C. White ; credit Merchandise Sales.
(5) Debit Freight In ; credit C. White. | } | (3) X |
|--|---|---------|

4. Paid the Carting Company cash, \$4, for hauling merchandise from freight depot to our store.

- | | | |
|---|---|-------|
| (1) Debit Purchases Returns and Allowances ; credit Cash.
(2) Debit Merchandise Sales ; credit Cash.
(3) Debit Carting Company ; credit Cartage Out.
(4) Debit Cartage Out ; credit Cash.
(5) Debit Freight and Cartage In ; credit Cash. | } | (5) |
|---|---|-------|

5. Paid the bill of the Davis Supply Co., \$12, for office supplies purchased.

- | | | |
|--|---|---------|
| (1) Debit Furniture and Furnishings ; credit Cash.
(2) Debit Office Supplies Inventory (Office Supplies or Sundry Expense Inventory) ; credit Cash.
(3) Debit Merchandise Purchases ; credit Cash.
(4) Debit Davis Supply Co. ; credit Merchandise Purchases.
(5) Debit Cash ; credit Davis Supply Co. | } | (4) X |
|--|---|---------|

Go on to the next page.

PART IV. JOURNALIZING *(Continued)*

6. Gave C. White a note for \$240 in full of account.

- (1) Debit Notes Receivable; credit C. White.
- (2) Debit Merchandise Purchases; credit Notes Payable.
- (3) Debit Sales Returns and Allowances; credit C. White.
- (4) Debit Notes Payable; credit Cash.
- (5) Debit C. White; credit Notes Payable.

} (1) X

7. Sold merchandise, \$75, to M. Harris on account.

- (1) Debit M. Harris; credit Merchandise Sales.
- (2) Debit Merchandise Purchases; credit Cash.
- (3) Debit Merchandise Sales; credit M. Harris.
- (4) Debit Notes Receivable; credit Merchandise Sales.
- (5) Debit M. Harris; credit Notes Receivable.

} (3) X

8. Sent a credit memorandum for \$55 to M. Harris for merchandise returned by him.

- (1) Debit M. Harris; credit Merchandise Sales.
- (2) Debit Sales Returns and Allowances; credit Notes Receivable.
- (3) Debit Sales Returns and Allowances; credit M. Harris.
- (4) Debit Cartage Out; credit M. Harris.
- (5) Debit Interest Expense (Interest Cost, Interest Paid); credit M. Harris.

} (3) X

9. Paid the grocery bill of the proprietor.

- (1) Debit Proprietor, Investment (Capital); credit Cash.
- (2) Debit Proprietor, Drawing (Personal); credit Merchandise Sales.
- (3) Debit Merchandise Purchases; credit Proprietor, Drawing (Personal).
- (4) Debit Proprietor, Drawing (Personal); credit Cash.
- (5) Debit Profit and Loss; credit Proprietor, Drawing (Personal).

} (4)

10. Received from James Brown \$350 in payment of his note due today.

- (1) Debit Notes Receivable; credit Cash.
- (2) Debit Interest Income (Interest Earned); credit Notes Receivable.
- (3) Debit Cash; credit Notes Receivable.
- (4) Debit Cash; credit James Brown.
- (5) Debit Notes Payable; credit James Brown.

} (9)

Go back and make sure your answers are correct. Then go on to the next page.

Number right.....5.....(Score)

PART V. CLASSIFICATION

DIRECTIONS. Indicate by a check mark (✓) whether the balances of the following accounts taken from the ledger of M. A. Harris would appear as debits or as credits. Show by entering in the column headed "Classification" the correct classification numbers from those given below.

- 1 Asset
- 2 Liability
- 3 Proprietary Interest (Proprietorship)
- 4 Income
- 5 Deduction from Income
- 6 Expense
- 7 Deduction from Expense

		DEBIT	CREDIT	CLASSI- FICATION
SAMPLE.	Cash	(✓)	()	(1)
1.	Cartage Out	1. ()	()	()
2.	A. L. Craig (who owes the business \$100)	2. ()	(✓)	()
3.	Freight and Cartage In	3. ()	()	()
4.	Fuel (Fuel Used or Fuel Expense)	4. ()	()	()
5.	Fuel Inventory (Fuel or Sundry Expense Inventory)	5. ()	()	()
6.	R. H. Fuller (to whom the business owes \$75)	6. ()	()	()
7.	Furniture and Furnishings	7. ()	()	()
8.	Harris, Investment (Capital)	8. ()	()	()
9.	Harris, Drawing (Personal) (when the debits exceed the credits)	9. ()	()	()
10.	Interest Expense (Interest Cost or Interest Paid)	10. ()	()	()
11.	Interest Income (Interest Earned)	11. ()	()	()
12.	Merchandise Discount on Purchases	12. ()	()	()
13.	Merchandise Discount on Sales	13. ()	()	()
14.	Merchandise Inventory (end of period)	14. ()	()	()
15.	Merchandise Purchases	15. ()	()	()
16.	Merchandise Sales	16. ()	()	()
17.	Notes Payable	17. ()	()	()
18.	Notes Receivable	18. ()	()	()
19.	Office Supplies (Office Supplies Used or Office Supplies Expense)	19. ()	()	()
20.	Office Supplies Inventory (Office Supplies or Sundry Expense Inventory)	20. ()	()	()
21.	Profit and Loss (when its balance shows a profit)	21. ()	()	()
22.	Purchases Returns and Allowances	22. ()	()	()
23.	Rent Expense	23. ()	()	()
24.	Salaries	24. ()	()	()
25.	Sales Returns and Allowances	25. ()	()	()

*Go back and make sure your answers are correct. Then
go on to the next page.*

Number right... 0 ... ÷ 2 = 0 (Score)

PART VI. ADJUSTING ENTRIES AND CLOSING THE LEDGER

DIRECTIONS. From the list of accounts given here, select those which should be used to record the necessary adjusting and closing entries indicated below and write the numbers of the accounts in the Debit and Credit columns.

- 1 Freight and Cartage In
- 2 Fuel (Fuel Used or Fuel Expense)
- 3 Fuel Inventory (Fuel or Sundry Expense Inventory)
- 4 Merchandise Inventory
- 5 Merchandise Purchases
- 6 Merchandise Sales
- 7 Profit and Loss
- 8 Proprietor, Drawing (Personal)
- 9 Proprietor, Investment (Capital)
- 10 Purchases Returns and Allowances
- 11 Rent Expense
- 12 Salaries
- 13 Sales Returns and Allowances

SAMPLE. To close the account recording the salaries paid for the period..... (7) (12)

-
1. To close the Purchases Returns and Allowances account..... () ()
 2. To close the Sales Returns and Allowances account..... () ()
 3. To close the Freight and Cartage In account..... () ()
 4. To transfer the merchandise inventory at the beginning of the period..... () ()
 5. To record the merchandise inventory at the close of the period () ()
 6. To close the Merchandise Purchases account..... () ()
 7. To close the Merchandise Sales account if a gross profit results.. () ()
 8. To close the account recording the cost of fuel used during the period..... () ()
 9. To close the account recording the salaries paid during the period..... () ()
 10. To transfer the net profit for the period to the proper account... () ()

Go back and make sure your answers are correct. Then go on to the next page.

Number right..... (Score)

PART VII. STATEMENTS

DIRECTIONS. Below are some statements, some of which are true and some of which are false. If you think a statement is true, underline *True*; if you think a statement is false, underline *False*. *Do not guess.*

SAMPLE. In bookkeeping, values received are called credits.... True False

-
1. The gross loss of a business is the excess of the cost of merchandise sold over the sales..... True False
 2. The balance sheet shows the condition of a business at a definite time..... True False
 3. The profit and loss statement shows the cause for the increase or decrease in the proprietary interest (proprietorship)..... True False
 4. The gross profit of a business is equal to the excess of the operating expenses over the net profit..... True False ✗
 5. Merchandise withdrawn by the proprietor is debited to the Proprietor's Drawing (Personal) account..... True False
 6. A net loss increases the proprietary interest (proprietorship)..... True False
 7. A credit balance in the Proprietor's Drawing (Personal) account decreases his proprietary interest (proprietorship) in the business..... True False ✗
 8. The payment of a customer's note held by the business decreases the liabilities..... True False
 9. In the report form of a balance sheet, the assets appear as the sum of the liabilities and the proprietary interest (proprietorship) True False ✗
 10. Interest paid on notes given by the business decreases the net profit for the period..... True False ✗

*Go back and make sure your answers are correct. Then
go on to the next page.*

Number right.....6.....(Score)

PART VIII. STATEMENTS

DIRECTIONS. Below is a series of statements, in each of which something is omitted. On the blank after each statement write the word or words, term or terms, which will make the statement complete and true in meaning.

SAMPLE.

A credit in the Cash account represents cash — (paid)

1. The liabilities equal the assets — the proprietary interest (proprietorship) (plus) X
2. Personal accounts in which the debits exceed the credits are listed as assets in the — (_____) X
3. The payment of a note payable by the business — liabilities (_____) X
4. If the assets increase and the liabilities decrease, the proprietary interest (proprietorship) — ... (_____) X
5. The gross profit of a business minus the operating expenses equals the net operating — (expense) X

*Go back and make sure your answers are correct. Then
go on to the next page.*

Number right 0 (Score)

PART IX. STATEMENTS

DIRECTIONS. Read each of the following transactions. If it affects the Profit and Loss statement, underline *Yes*. If not, underline *No*.

SAMPLE. Paid cash for use of store for month. Yes No

-
1. The business received cash from Jones to apply on account. Yes No
 2. Paid T. C. White cash for his services for the month. Yes No X
 3. The business used three tons of coal during the month. Yes No
 4. Gave J. M. Hayes a non-interest-bearing note in full of account. Yes No
 5. Received a non-interest-bearing note from T. B. Miller to apply on account. Yes No
 6. Sold merchandise to H. P. Thomas at a profit. Yes No
 7. Received payment from T. B. Miller for note due the business. Yes No
 8. Paid a household bill of the proprietor in cash. Yes No
 9. Paid the note due W. M. Mason with interest. Yes No X
 10. Approximately half of the office supplies purchased during the month were used during the month. Yes No X

Go back and make sure your answers are correct.

Number right. 7 . . . $\div 2 =$ 4 (Score)

PIATT THEORY TEST

DIRECTIONS: Below are some statements, some of which are true and some of which are false. If you think a statement is true, put a "+" sign in front of the number of that statement. If the statement is false, put a "0" in front of the number of the statement. Classify the statements about which you feel sure. Do not guess.

SAMPLE: ___ 52. Bookkeeping is taught in the third grade.

- ___ 1. Mdse. is everything bought, and sold at a profit.
- ___ 2. Office furniture is never merchandise.
- ___ 3. Mdse. bought "on account" means that it is not paid for when bought.
- ___ 4. Cash paid "on account" means cash paid on oral promises.
- ___ 5. When Mdse. is purchased, the seller receives the merchandise.
- ___ 6. In a trial balance the sum of the debits should equal the sum of the credits.
- ___ 7. Gross profit is profit on selling merchandise.
- ___ 8. Gross loss is caused by too much operating expense.
- ___ 9. Assets are values belonging to, or owed to a business.
- ___ 10. Liabilities are debts owed to a business.
- ___ 11. Cash is not used in the profit and loss statement.
- ___ 12. The interest of the proprietor is increased by net loss.
- ___ 13. Assets plus Liabilities equals Proprietary Interest.
- ___ 14. Values that are received are credited.
- ___ 15. When operating expenses are greater than gross profit, the result is a net operating loss.

- ___ 16. Salaries are credited when cash is paid for services.
- ___ 17. Gross profit minus total operating expenses equals net operating profit.
- ___ 18. Mdse. Inventory is found by subtracting the total of Mdse. Sales from the total of Mdse. Purchases.
- ___ 19. The cash balance is an asset.
- ___ 20. Mdse. Prchs. is credited for the cost of Mdse. purchased.
- ___ 21. A customer is credited for Mdse. sold him on account.
- ___ 22. A customer is credited for cash received from him on account.
- ___ 23. A customer is credited for defective Mdse. returned by him.
- ___ 24. Net profit is added to expenses in the working sheet.
- ___ 25. Debts owed to the business are assets of the business.
- ___ 26. Net profit plus Total Operating Expenses equals Gross Profit.
- ___ 27. Office Supplies includes everything used in the office.
- ___ 28. Office Supplies is an operating expense.
- ___ 29. The proprietor's investment account is credited with the net profit at the end of the period.
- ___ 30. The amount of error caused by a transplacement of figures is divisible by nine.
- ___ 31. Fuel Inventory is an asset.

- ___ 32. At the close of the fiscal period the Fuel Inventory account is credited for the amount of fuel on hand at that time.
- ___ 33. The debit side of the proprietor's drawing account shows how much he was withdrawn for personal use.
- ___ 34. Notes are negotiable paper.
- ___ 35. The indorsement is made by the maker of the note usually.
- ___ 36. All notes bear interest.
- ___ 37. Every note is both Notes Receivable and Notes Payable.
- ___ 38. When you give your note on account, you record it in the General Journal.
- ___ 39. Notes Receivable is credited for all notes of others received.
- ___ 40. When a note is paid it always requires two entries in the Cash Journal.
- ___ 41. In the closing entries the Interest Income account is debited.
- ___ 42. Interest Expense is a liability.
- ___ 43. The total of the Pchrs. Journal is credited to the Pchrs. account.
- ___ 44. The separate amounts in the Sales Journal are posted to the credit of the Sales account.
- ___ 45. Total cash received is the cash balance.
- ___ 46. Mdse. Pchrs. is credited for Mdse. taken out of the business for personal use.
- ___ 47. Cartage out is cartage on Sales.
- ___ 48. Pchrs. Returns and Allowances is always credited.
- ___ 49. Freight Out and Freight In are both debited.
- ___ 50. Discount on Sales is always debited.

PIATT PRACTICE TEST, PART I

Record the following transactions in the appropriate Journals. You may omit explanations in all Journals.

- March 1. G. D. Parsons began a hardware business investing cash, \$4500.
- " 2. Paid Clark Land Co. cash for rent of store, \$80.
- " 3. Bought hardware from Conover Hardware., at 10 days, \$840.
- " 4. Sold hardware to D. C. Brock, \$140.60. R'cd. cash.
- " 5. Bought of Merchants Supply Co., for cash, supplies for office use, \$40.85.
- " 6. Sold hardware to N. S. Grayson, \$230.50. Received his 15 day note, bearing 6% interest, full payment.
- " 8. Bought of Bailey Implement Co., hardware, at 10 days, \$347.50.
- " 9. Bought of Baxter Fuel Co., coal for store use, \$112. Paid cash.
- " 10. Sold hardware to D. C. Brock, at 10 days, \$105.40.
- " 11. Bought hardware of Conover Hardware Co., \$420.75. Gave \$250. cash, and your 15 day note bearing 6% interest for the balance.
- " 12. Paid City Gas Co., cash for gas used at Mr. Parsons', the proprietor's, home, \$12.50.
- " 13. Paid Conover Hardware Co., cash in full for purchase of the 3rd.
- " 15. Sold hardware to N. S. Grayson, at 15 das., \$90.95.
- " 16. Bought hardware of Bailey Implement Co., for cash, \$115.50.
- " 17. G. D. Parsons, the proprietor, took hardware from the business to be used at home, costing \$15.75.
- " 18. Gave Bailey Implement Co., your note, 30 days at 6% in full for purchase of the 8th.
- " 19. Bought hardware of Conover Hardware Co., at 10 days, \$215.85.
- " 20. Received cash from D. C. Brock in full payment for sale of the 10th.
- " 22. Received cash from N. S. Grayson in payment of his note received on the 6th, with interest.
- " 23. Received cash from N. S. Grayson to apply on account, \$75.
- " 24. Bought of Eclipse Furniture Co., for cash, furniture for office use, \$147.25.
- " 25. Paid Conover Hardware Co., cash, on account, \$175.60.
- " 26. Paid your note given Conover Hardware Co. on the 11th, with interest.
- " 27. Sold hardware to D. C. Brock, \$114.40. Received his 20 day, 6% note in full payment.
- " 29. Paid Conover Hardware Co. cash, to apply on account, \$150.
- " 30. Received cash from N. S. Grayson, on account, \$80.
- " 31. G. D. Parsons, the proprietor, took cash for his monthly salary, \$180.
- " 31. Paid clerk cash for salary, \$95.

PIATT PRACTICE TEST, PART II

From the following information make a Profit and Loss Statement.

July 31, 1932

Cash	532.50	
Accounts Receivable	1502.90	
Notes Receivable	250.00	
Furn. & Furn.	196.40	
Fuel Inventory	30.00	
Office Supplies Inventory	33.75	
Accounts Payable		396.25
Notes Payable		400.00
A. R. Samuels, Investment		2600.00
A. R. Samuels, Drawing	100.00	
Merch. Sales		1783.20
Interest Income		8.65
Merch. Purchases	2302.20	
Rent Expense	75.00	
Salaries	150.00	
Interest Expense	15.35	
	<u>5188.10</u>	<u>5188.10</u>

Merch. Inv., July 31,	981.10
Fuel Inv.	15.00
O. S. Inv.	10.75

PIATT PRACTICE TEST, PART III

From the following information make a Balance Sheet.

August 31, 1932

Cash	306.30	
Accounts Receivable	585.20	
Notes Receivable	300.00	
Furn. & Furn.	300.00	
Fuel Inventory	65.00	
O. S. Inventory	46.00	
Accounts Payable		264.75
Notes Payable		150.00
D. G. Holmes, Investment		1850.00
D. G. Holmes, Drawing	50.00	
Merch. Sales		1605.10
Interest Income		16.60
Merch. Purchases	1972.50	
Rent Expense	50.00	
Salaries	200.00	
Interest Expense	11.45	
	<u>3886.45</u>	<u>3886.45</u>

Merch. Inv., Aug. 31,	840.25
Fuel Inv.	55.00
O. S. Inv.	16.00

Net Profit \$188.00

PLATT PRACTICE TEST, PART IV

From the following information make Journal Adjusting and Closing entries. You may omit explanations.

Merch. Sales	1647.50
Merch. Purchases	2435.20
Merch. Inv., July 31	<u>1114.30</u>
Cost of Merch. Sold	<u>1320.90</u>
Gross Profit on Sales	326.60

Operating Expenses

Rent Expense	50.00	
Salaries	110.00	
Fuel--Fuel Inv., Acc't.	34.50	
Less Inv., July 31	<u>22.00</u>	12.50
O. Supplies--O. S. Inv., Acc't.	17.25	
Less Inv., July 31	<u>13.60</u>	<u>3.65</u>
Total Operating Expense		<u>176.15</u>
Net Operating Profit		150.45

Other Expense

Interest Expense	8.50
------------------------	------

Other Income

Interest Income	<u>1.35</u>	<u>7.15</u>
Net Profit for Period		<u>143.30</u>

BIBLIOGRAPHY

- Blackstone, E. G. Research Studies in Commercial Education, III. University of Iowa Monographs in Education. Iowa City, Iowa: College of Education and College of Commerce, 1928.
- Jones, Connor Thorne. Teaching Business Subjects in the Secondary School. New York: Ronald Press Company, 1924, pp. 75-117.
- Kahn, Joseph and Klein, Joseph J. Principles and Methods in Commercial Education. New York: The Macmillan Company, 1917, pp. 151-153.
- Kester, Roy B. Research Method Applied to Accounting Practice. First Year Book of Eastern Commercial Teachers' Association, Chapter III. New York: Eastern Commercial Teachers' Association, 1929, pp. 73-81.
- Lomax, Paul S. and Agnew, Peter L. Problems of Teaching Bookkeeping. New York: Prentice-Hall, Inc., 1930, pp. 160-174.