Intelligence and achievement of Blackfeet Indians

Douglas Gold

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THE INTELLIGENCE AND ACHIEVEMENT
OF
BLACKFEET INDIANS

by

DOUGLAS GOLD

Presented in partial fulfillment of the
requirements for the degree of
Master of Arts

State University of Montana

1934

Approved:

[Signature]
Chairman of Examin ing Committee

[Signature]
Chairman of Graduate Committee
# THE INTELLIGENCE AND ACHIEVEMENT of BLACKFEET INDIANS

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INTRODUCTION
In the fall of 1914, the writer became principal of the public school located at Browning, on the Blackfeet Indian Reservation. The school consisted of a hundred children, practically all of whom were members of the Blackfeet tribe of Indians, with varying degrees of Indian blood. Later becoming superintendent of Schools of District Number Nine, Glacier County, a district embracing most of the area of the Blackfeet Indian Reservation, he was engaged in educational work among these people almost continuously till the spring of 1934. At the close of the World War Forrest R. Stone came to the Blackfeet Reservation in the capacity of Inspector of Livestock. Later, becoming superintendent of the reservation, he remained as such until the present time. At about the same time C. W. Sellars came to the Blackfeet Reservation as Principal of the Blackfeet Boarding School on the Cut Bank River. Later, becoming Day School Inspector of the reservation, he remained in this capacity till his retirement in 1934 from the Indian Service.

During these many years these three men worked in close cooperation. Many problems rising out of the various phases of the educational and social sides of Indian life were brought to them for solution. Innumerable reports were demanded of them, and descriptions of Indian activity in all its aspects. Owing to the fact that the Blackfeet were widely intermarried with whites and Indians of other tribes with resultant
variations in degree of blood, and owing to the fact that the Federal government was, during this period, attempting to bring its Indian wards into closer contact with normal life as lived by white people, the Blackfeet Reservation became the objective of almost nation-wide study; and the commingling of the Indian and white races in the schools on this reservation approaching so closely to the ideal desired by the Indian Bureau, the situation came to be considered by them as nearly model and ideal.

Probably the most persistent demand made of the people engaged in this educational program during these years was for an appraisal of the comparative intelligence of the Indian and the white races. We feared the possible disruption of the cordial relations existing between the children of the two races within the public schools however, should the question of comparative intelligence ever become a prominent one. Accordingly, this question was never definitely answered by anyone engaged in the educational program on this reservation. Intelligence tests were given rarely and the results closely guarded. Necessary differentiations in curricula or provision for individual or group differences were made with great deliberation, and explained on grounds of language, unequal opportunity, late entrance, or poor attendance; never on the basis of definite variations in intelligence quotients. Until 1934 this question remained
unanswered except in the minds of those engaged in working with the children of these two races. In that year, however, it appeared possible that Superintendent Stone was about to be transferred to another reservation. Mr. Sellars, having reached the age limit, was retired from active duty, and the writer resigned the superintendency of the public schools on the Blackfeet Reservation. It was mutually agreed by these three men that before this separation of any or all of them from the field of endeavor which had for so many years engaged their common attention and effort should be effected, a definite study of the question of the Intelligence of the Blackfeet Indians should be undertaken. Accordingly the study was initiated in the winter of 1933-34 and carried on for a period of half a year.

The following records were available, all of which bore promise of containing information which would be of some value to the inquiry:

A. Attendance and scholarship records of about two thousand children of varying degrees of Blackfeet Indian blood who had attended the public schools of District Number Nine, or the day schools and boarding school operated by the Indian bureau, between the years 1914 and 1934.

B. Attendance and scholarship records of about six hundred white children who had attended the schools
of District Nine during the same period.

C. Intelligence quotients of about five hundred Indian children included under "A".

D. Intelligence quotients of about two hundred and fifty white children included under "B".

E. Results of various achievement tests of about five hundred Indian children included under "A".

F. Results of various achievement tests of about two hundred and fifty white children included under "B".

G. Numerous appraisals of the physical, mental, and social qualities of members of the Blackfeet Race to be found in the records of the Department of the Interior; and in the historical narratives growing out of the explorations, visitations, and trade relations of white men in the Blackfeet country over a period of about a hundred years.

H. The history of the efforts of the Indian Bureau to educate the members of the Blackfeet Tribe of Indians thru a period of over half a century. This record procurable from piecemeal reports of many Indian agents and school principals to the Department of the Interior and made available largely thru Congressional records and Executive Documents.

I. Mental records and estimates of numerous white people who for many years had had business and social
relations with the Blackfeet Indians.

J. Mental records and estimates of numerous teachers who had for many years been employed in teaching in schools attended by Blackfeet Indians.

K. A study of comparative intelligence of Indian and white people in Montana.

L. Current records (1934) of attendance and scholarship of about one thousand white and Indian children attending the various schools on the Blackfeet Reservation.

M. The 1934 census of the Blackfeet Tribe of Indians as compiled by Superintendent Forrest R. Stone, showing the exact degree of Indian blood of all members of the Blackfeet nation.

N. Common knowledge of feats of achievement of individual Blackfeet Indians.

Sources A, B, C, D, E, and F were eventually discarded and new intelligence and achievement tests were given to all the children in the several schools coming within the study.

The writer wishes to acknowledge his appreciation of the assistance of the following who contributed to the study:

Dr. Freeman Daughters, Dean of Department of Education, University of Montana

Professor W. R. Ames, Department of Education, University of Montana
Mr. Forrest R. Stone, Superintendent of Blackfeet Indian Reservation

Mr. C. W. Sellars, Day School Representative, Blackfeet Indian Reservation

Mrs. Mary M. Reagan, County Superintendent of Schools, Glacier County, Montana

Miss Ada Benedict, a teacher in the schools of District Number Nine, Blackfeet Indian Reservation.

Mr. Reuben Huss, Instructor in Mathematics, Browning High School.
TRAITS AND CHARACTERISTICS OF EARLY BLACKFEET
AS EVALUATED BY
TRADERS, TRAPPERS, AND EXPLORERS
When the notable expedition of Lewis and Clarke neared the headwaters of the Missouri River, they found themselves in a land which, if it did not flow with milk and honey, at least ran with deer and antelope. It was a region "especially favored by the warm Chinook winds, which insure mild winters and little snow. Over this vast domain the bison were found in countless numbers. Elk, deer, antelope, mountain sheep and bear without numbers were there. In those days sheep were to be found on every ridge and along the bad lands far from the mountains. In the early years of the 19th century, this country is said to have been also the richest beaver country in the entire west." Guarding this paradise, which extended from the Missouri to the Saskatchewan, they found a tribe of magnificent Indians. "Descendants of the Algonquin linguistic family, distinguished for noble tribes, stalwart warriors, and a high aboriginal development, the Blackfeet constituted a powerful nation: a fierce, proud, haughty tribe. They were one of the great Indian peoples of the northwest, with thousands of lodges, and holding by force of arms their hunting grounds .... They were an intelligent, and when aroused, an extremely warlike people. ...These red men had rarely known defeat in battle, and considered themselves the aristocracy

of the fighting tribes of the whole vast Rocky Mountain country. Their war parties ranged from the Saskatchewan on the north as far south as the Salt Lake, and not a tribe that inhabited that great area but knew and feared the raids of the Blackfeet."

The Blackfeet made a place for themselves in the history of the west, and no narrative of the early days of this country omits them. It is interesting to glean from the romantic reports of the early hunters and traders the variety of appraisals which have been made of these people. In 1828 one "McKenzie . . . began to look with covetous eyes toward the region of the savage and dreaded Blackfeet." Their country was irresistible, and altho McKenzie had many harrowing experiences with these Indians he always returned. In 1847 David Coyner told of the wonders of this paradise, not forgetting to add, however, that it was a "country over which roves and prowles the ferocious Blackfeet Indians, then as well as now one of the most cruel and relentless tribes of the far west." David Thompson, who had spent the winter of 1787-88 among the Piegans (one division of the Blackfeet nation) comments upon them as follows: "They are a fine race of men, tall and muscular, with manly features and intelligent countenances." Even Washington Irving

made mention of them, altho in somewhat uncomplimentary tone: "These savages (the Blackfeet) are the most dangerous Banditti of the mountains. They are Ishmaelites of the first order always with weapon in hand ready for action. If they succeed in causing a panic they dash forward with headlong fury. If the enemy is on the alert they show no sign of fear. They become wary and very deliberate in their movements . . . . They are a treacherous race and have cherished a lurking hostility to the whites."

Their method of fighting has been variously described, and ranged from simple harassment to planned maneuvering. The writers of Broken Hand say of them: "The savages (Blackfeet) kept up a close investment, stealing traps and horses and making successful trapping impossible." And again, "Those Ishmaelites of the mountains, the Blackfeet . . . swept down this region from their far northern home." In describing a fight with the whites in 1847 Hamilton tells us that they "had planned everything with shrewdness; both of selection of grounds and in their decoys." However, it had been said of their conduct in 1832 that they "are not steady warriors; they become too excited in action, and lose

8. William R. Hamilton, Trading Expeditions (Helena, 1903),
many opportunities of inflicting mischief." 9 There are innumerable stories of their individual bravery, such as one wherein "A Blackfoot had his leg broken by a ball. He was found the next morning unable to get away, but he sat up and defended himself until he had shot his last arrow." 10

It is quite probable that the Blackfeet overshadowed nearby and related tribes and in some instances bore the responsibility for conduct not their own. It is accepted now that the "Blackfoot" killed by members of the Lewis and Clarke expedition was in reality a Gros Ventre. Yet we read: "Here he had an unpleasant encounter with the Blackfeet, the most treacherous of all the Indians." 11 Of it all there can probably be no better summary than that given by Grace Flandrau: "There are many other instances of sanguinary hostility falsely attributed to the Blackfeet and of course many authentic manifestations of enmity on their part. The reason for their aversion to the presence of white men among them ... was fundamental. The Blackfeet were an Algonquin nation who had advanced slowly westward. Equipped from a very early period with guns and ammunition furnished by the French and British traders of Canada, they had been able to drive the original lords of

10. Ibid.,
the plains, Flathead, Kootenais and others, out of the vast buffalo ranges east of the Rockies, and force them to an unwilling exile across the mountains . . . . The legend of the terrible Blackfeet, partly fact, partly fiction prevailed throughout the frontier period.  

While it is probable that those pictures of the early Blackfeet which deal with their methods of warfare are the most vivid that have come down to us from the past century, there are other appraisals of their personal characteristics which are enlightening to one who would attempt to form an opinion of the intelligence of these people. David Thompson again gives us the earliest of these: "These Indians (the Blackfeet) are noted for their apathy. This is more assumed than real. . . . In public he wishes it to appear that nothing can phase him; but in private he feels and expresses himself sensible to everything that happens to him or to his family." Father De Smet, who spent considerable time among them gives us three estimates at considerable variance. He says in one: "During the five weeks that I have stayed among them (the Blackfeet) "they were assiduous and attentive as possible to the instructions I gave them." Again he says: "Among them all are met the same cruelty,  

13. David Thompson, Narratives of His Explorations in Western America, (Toronto, 1915)  
the same barbarity, the same sloth and supineness; in fine
the same degrading and revolting superstitions, pushed to
the most remote limits which the human mind, abandoned to
itself and under the empire of vile passions, can reach." 15
And again he writes: "I have had frequent interviews with
them (the Blackfeet). They have always lent the most marked
attention to all my works. They have ever listened to the
holy truths I preached to them with extreme pleasure, and
a live interest." 16

Lewis and Clarke, in their Journal, said: "They are
a timid, inoffensive, and defenseless people." 17 In speak­ing
of the Journals, Agnes Laut tells us: "The Journals
record much the same religious beliefs among this tribe
(Gros Ventre) as among the Blackfeet, belief in one spirit
dwelling in the sun, and a multitude of lesser deities
guarding streams and woods, and game, and each individual
a sort of alter ego as it were." 18 Of the same period
Thompson said: "The character of all these people (Black­feet, Piegans, and Bloods) appears to be brave, steady, and
deliberate; but on becoming acquainted with them, there is

15. Letter from Father De Smet, History of Western Missions
and Missionaries in the United States ( ), p. 54.
16. Ibid., p. 55.
17. Thwaites, Reuben G., Journal of Lewis and Clarke (New
York, 1904), VI, p. 111.
18. Agnes C. Laut, Conquest of Our Western Empire, (New York,
no want of individual character, and almost every characteristic in civilized society can be traced among them.\textsuperscript{19}

It would no doubt be possible to go on indefinitely quoting the opinions of these early writers. We shall satisfy ourselves with just one more: "These Blackfeet Indians were not blood-thirsty at this time (1852) for they could have ambushed and killed us almost any day or night. But to be an expert and successful horsethief gave the Indian great prestige, and he was emphatically "It" among the damsels of his tribe . . . . Except in actual war it was considered a greater achievement to get the horses without bloodshed and without being seen than it was to murder the owner in order to secure his horses."

\textsuperscript{19}

"The Indian of the eastern states has always been described as a saturnian, gloomy, mirthless race, which may have been so; but it is not true of those living in the western states, for they love a practical joke, and villages and encampments are often scenes of jollity and laughter. They have a keen sense of ludicrous, humorous situations."\textsuperscript{20}

From all of this conflicting testimony three facts stand out in apparent common acceptance:

1. The Blackfeet occupied the most cherished lands

\textsuperscript{19} Thompson, \textit{op. cit.}, p. 355.
\textsuperscript{20} Granville Stuart, \textit{Forty Years on the Frontier}, (Cleveland, 1925), I, p. 135.
and exiled other Indian tribes from them.

2. They were the most feared and dreaded of all Indian tribes.

3. They were capable of wide variation of mood and manner.

It is submitted that these facts might indicate an advanced type of intelligence of a very elementary and primitive kind.
TRAITS AND CHARACTERISTICS
OF
EARLY BLACKFEET
AS EXHIBITED
IN
EARLY INDIAN SCHOOLS
The Senate documents of 1868 bear the record of a portentous step in the history of the development educationally of the Blackfeet Indians. It was at this time that the Federal Government pinned its faith definitely upon a program of academic and vocational training for these people, which has been carried on with varying success, but with a rather definite objective ever since. It is not indicated in the treaty which the United States made with the Blackfeet to what extent the Indians themselves felt the need of education for their children, but the writer has had personal narratives from old Indians which indicate that the establishment of the schools was very agreeable to the Indians and was indeed upon their solicitation. That part of the treaty covering education reads:

"In order to insure the civilization of the Indians entering into this treaty, the necessity of education is admitted. Especially of such of them as are or may be settled on said agricultural reservations, and they therefore pledge themselves to compel their children, male and female, between the ages of six and sixteen years, to attend school; and it is hereby made the duty of the agent for said Indians to see that this stipulation is strictly complied with. And the United States agrees that for every thirty children between said ages who can be induced or compelled to attend school a house shall be provided, and a teacher competent to teach the elementary branches of an English education shall be furnished, who shall reside among the Indians and faithfully discharge his or her duties as a teacher. The provisions of this act to continue
for not less than twenty years."21

It is not known whether the period of twenty years was indicated as possibly fully completing the civilization and education of the Blackfeet, but it is a fact that the educational policy of the government is continued to the present time.

Within the next four years the first school was indeed established, and if progress was to be made it was apparently to be measured from zero according to the report which the Superintendent-in-charge of the reservation at the time of its beginning, sent to the Secretary of the Interior:

"They appear to have no purpose in life except to hunt and to procure robes and peltries for the traders; no thought of settlement; no knowledge of the value of agriculture; no comprehension of social or family relations or morality; and without any intelligence whatsoever except the animal instinct of self-preservation; and the cunning that provides for it."22

However, when he comes to actually describe the school he seems somewhat encouraged:

"Cutting and sewing are also being taught to girls, which is an important and most necessary part of their education. No knowledge of this ever having been brought to their notice. And I am glad to state that the female pupils especially

pay an earnest and respectful attention to everything taught them; and that they are now making rapid progress. Also that the school has increased in numbers and efficiency."23

The next year he reports that "The school has been well attended during the time it was in session and good progress has been made by many of its pupils."24

The progress was indeed remarkable, or his successor was somewhat more optimistic, for in 1878 John Young, then Indian Superintendent reports:

"The day school has been well attended. The progress has been marked and satisfactory. The intelligence and docility of the children was pleasing to see. I do not think the same large number of white children could be so easily controlled, and kept in order by two teachers."25

In 1881 he reports that "Their progress is fair and they are naturally quick and intelligent. For figures they have a peculiar aptness, and can do sums correctly."26 And in the following year: "The day school has been well attended during the year and fair progress has been made

by the pupils."  

The educational attempts seemed to waver between day schools and boarding schools, and it is not always clear which type of program was in progress. In 1884 the new superintendent—and apparently there were always new superintendents—said:

"No boarding school has been in operation this past year. The day school has been fair, and the children seem to be considerably interested. Most of them do not learn rapidly, but there are a few bright exceptions to that rule."  

After that nothing appears for a year or two but in 1888 Superintendent M. D. Baldwin reports: "A boarding school has been maintained at the agency throughout the year and a day school. Both of which have made commendable progress."  

The following year apparently marks the beginning of the Non-reservation School policy for the Blackfeet, as in the report of Superintendent John B. Catlin we find: "This agency has sent forty-five scholars to the Indian Industrial school at Carlisle, Pennsylvania, during the past year."  

But the reservation school apparently felt a slump as a
result of skimming the cream for Carlisle, as the same superintendent reports the following year that "The progress of this school for the past year has not been satisfactory."\(^{31}\) In 1893 however the clouds lifted from the reservation boarding school and Superintendent Matson reports: "They commit readily, retain well, are superior readers, and respond with alacrity truly gratifying."\(^{32}\)

The year 1894-95 shows the churches becoming actively interested in the education of the Blackfeet. Superintendent J. W. Watson reports of the Boarding school first: "Very perceptable mental advancement was made .... In addition to the agency boarding school, there are three mission schools all doing good work."\(^{33}\) The vocational and academic aspects of the schools both receive commendation during the next two years. Superintendent McGlaughlin reports that "They are generally fair farmers, and must be encouraged by example."\(^{34}\) The following year his successor says "The literary work of the school was well up at the end of the year."\(^{35}\)

\(^{34}\) House Executive Documents, Report of the Secretary of the Interior, (Washington, D. C., 1897), XIII, p. 163.
Superintendent Matson during the early years of the present century broke all tenure records for work with the Blackfeet. From personal reminiscences made to the writer by Blackfeet Indians who knew him, it is suggested that he was a man of unusual personality and ability and left a memorable imprint upon the minds of the young Indian boys and girls who came in contact with him. In four successive Interior department reports he characterizes very briefly the educational work on the reservation: "A visit to the classroom showed much interest in the work of the scholars. In the industrial department the amount of work done and the quality of the same, fell below that of other years." 36 "The work of the industrial department of the school on the whole was good." 37 "In the school room, the work in the six different grades was kept in touch with the work of the industrial department, and as a whole was good." 38 "Good work was done (in the school) and a class of seven pupils prepared for advancement to some school of higher grade." 39

Two more references of this type will complete the evaluations of the intelligence of the Blackfeet Indians as shown by those men who were in charge of their training

over a period of nearly forty years, and will bring them up to the time when they came under the personal observation of the writer. The last two offered are both somewhat pessimistic. Mr. T. C. Price, well known by the writer, says in 1904: "The work in the literary department has not shown as good results as I would have liked." And in 1906 Superintendent Dare adds "It is slow work to induce these Indians to get to work to help themselves." While there is great indefiniteness in the reports of these several men, there are some points in which there appears to be common agreement:

1. The Blackfeet boys and girls were not difficult in matters of discipline.

2. Some of them learned rapidly. Most of them learned.

3. They profited by both industrial and academic training, probably more by the former.

4. Their achievement is a record of spurts and plateaus.

It is submitted that these facts have a definite bearing on the question of their intelligence and achievement, which are the subjects of this study.

ESTIMATES OF BLACKFEET INTELLIGENCE

BY

WHITE PEOPLE

WHO KNOW THEM WELL
As a part of this study the writer undertook to ascertain if there might be any agreement in the evaluations of the intelligence of the Blackfeet Indians which might be made by a group of successful white people, who had lived among them over a period of years, had engaged in business and social relationships with them, had—in some cases—learned their language, and had shown a definite and prolonged interest in the Blackfeet as a race. A questionnaire was prepared which required those replying to set an estimated intelligence quotient on: first, full-blooded Indians; and second, on those of mixed blood. It was thought unwise to attempt more classifications of blood than this, as people dealing with Indians commonly think of them in these two groups, and certainly would not know the exact degree of blood of the individuals they might have in mind at the time of making their evaluations. The questionnaire used at first attempted to suggest a definition of the term intelligence, after the concept of T. Binet. After a few attempts, however, it became apparent that the definition was serving only to confuse the issue. Those making replies were giving more attention to the definition than to the making of their estimates. Accordingly the first few replies were discarded and a second start was made using a

questionnaire that attempted no definition in its instructions. The questionnaire was stated as follows:

White people all over the United States have been assigned the following arbitrary scores for their intelligence:

- Genius or near genius: above 140
- Very superior intelligence: 120 to 140
- Superior intelligence: 110 to 120
- Normal or average: 90 to 110
- Dull: 80 to 90
- Very dull--almost feeble minded: 70 to 80
- Definitely feeble minded: Below 70

If you were to assign scores to the Indian people you know, what score from this list would you assign to the average full blood Indian, and what score would you assign to the average half blood Indian?

Those replying did not sign their names to their grades. Thirty-one questionnaires were given out and explained by the writer. Twenty-seven replies were received. Two were discarded because those replying had apparently not understood the questionnaire. The remaining twenty-five are tabulated here.

<table>
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<tr>
<th>Reply</th>
<th>Full Blood Score</th>
<th>Mixed Blood Score</th>
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<tr>
<td>A.</td>
<td>85</td>
<td>90</td>
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<tr>
<td>B.</td>
<td>85</td>
<td>95</td>
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<td>C.</td>
<td>85</td>
<td>92</td>
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<td>D.</td>
<td>70</td>
<td>85</td>
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<td>E.</td>
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<tr>
<td>F.</td>
<td>73</td>
<td>95</td>
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<tr>
<td>G.</td>
<td>90</td>
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<tr>
<td>H.</td>
<td>80</td>
<td>90</td>
</tr>
<tr>
<td>I.</td>
<td>90</td>
<td>92</td>
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<tr>
<td>J.</td>
<td>75</td>
<td>80</td>
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<td>K.</td>
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<td>93</td>
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<tr>
<td>L.</td>
<td>87</td>
<td>95</td>
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<tr>
<td>M.</td>
<td>95</td>
<td>100</td>
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<tr>
<td>N.</td>
<td>88</td>
<td>94</td>
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<tr>
<td>O.</td>
<td>85</td>
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<td>P.</td>
<td>81</td>
<td>86</td>
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<tr>
<td>Q.</td>
<td>83</td>
<td>90</td>
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In the case of the full blood scores the range shown measures twenty-five points, from 70 to 95. The median was 83 and the mean 82.3. Ten of the scores lay between 83 and 88 inclusive. Ten of the scores measured 80 or below, which was indicated as "very dull, almost feeble minded." No one scored the full bloods at 100 or normal, altho four of the scores would place the full blood Blackfeet as within the normal range--90 to 110. No score was in the definitely feeble minded classification below 70.

In the half-blood column the range was 80 to 100, or twenty points. The median was found at 90 and the mean at 90.3. While only one score was normal--100, eighteen of the scores were in the normal range of 90 to 110. Seven of the scores showed in the "dull" range, but none in the "almost feeble minded" range. It is notable that no person scored the full bloods higher than mixed bloods, and only one scorer gave them equal ratings (H). The difference between full bloods and mixed bloods in the several scores showed a range of twenty-two points in the case of scorer "F". The difference bore a mean of eight points in favor
of the higher intelligence of the mixed bloods and a median difference of seven points in the same direction.

If there is any value in the results of this questionnaire it might be summed in the following points.

1. 100 per cent of the replies agree that full blood Blackfeet Indians are not as intelligent as white people.

2. 90 per cent of the replies agree that mixed blood Blackfeet Indians are not as intelligent as white people.

3. 96 per cent of the replies agree that mixed blood Blackfeet Indians are more intelligent than full bloods.
ESTIMATES OF BLACKFEET INTELLIGENCE

BY

TEACHERS TEACHING BLACKFEET CHILDREN
A second study dealing with estimations of the intelligence of these people was made in which the evaluations of teachers accustomed to Blackfeet Indian children were used. It is noteworthy that none of the teachers taught all full blood children during the school year 1933-34, and that all but two teachers had all three groups: full bloods, mixed bloods, and whites in their rooms. It is also noteworthy that all teachers who replied had taught more than one year on the Blackfeet Reservation, and most of them had taught many years. The following questionnaire was used:

I am attempting to get teachers' opinions as to the intelligence of Blackfeet Indian children. You know, of course, that 100 would represent the intelligence norm for white children. Keeping this in mind, and remembering that it is intelligence and not achievement we are evaluating, please assign intelligence scores to:
1. Full blood Indian children, average
2. Mixed blood Indian children, average

Sixteen replies were received, and are tabulated here:

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Full Blood</th>
<th>Mixed Blood</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>85</td>
<td>95</td>
</tr>
<tr>
<td>B</td>
<td>77</td>
<td>80</td>
</tr>
<tr>
<td>C</td>
<td>75</td>
<td>85</td>
</tr>
<tr>
<td>D</td>
<td>80</td>
<td>90</td>
</tr>
<tr>
<td>E</td>
<td>85</td>
<td>90</td>
</tr>
<tr>
<td>F</td>
<td>83</td>
<td>93</td>
</tr>
<tr>
<td>G</td>
<td>78</td>
<td>93</td>
</tr>
<tr>
<td>H</td>
<td>82</td>
<td>90</td>
</tr>
<tr>
<td>I</td>
<td>85</td>
<td>95</td>
</tr>
<tr>
<td>J</td>
<td>88</td>
<td>95</td>
</tr>
<tr>
<td>K</td>
<td>83</td>
<td>90</td>
</tr>
<tr>
<td>L</td>
<td>80</td>
<td>90</td>
</tr>
</tbody>
</table>
For the full bloods the range was thirteen points, from 75 to 88. The median was 82.5 and the mean 81.6. Eleven of the sixteen scores were in the range 80 to 85 inclusive. The mixed blood scores ranged from 87 to 95, only eight points. The median was 90 and the mean 91.1. A four point range 90 to 93 included ten of the scores.

No teacher rated the mixed bloods as normally intelligent. All but three of the scores put them in the lower part of the normal range. It is noteworthy that while the teacher estimates, which were doubtless more scientifically made than those of the business people, showed more concentration and less scatter, the median grades assigned the full bloods by the two groups varied only half a point; and those assigned the mixed bloods by the two groups were identical.

Without attempting to set a value upon the findings of this study it is submitted that these sixteen teachers who are widely experienced in teaching groups which contain white children as well as mixed blood and full blood Black-feet Indian children estimate as follows:

1. 100 per cent of the replies agree that full blood

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Full Blood</th>
<th>Mixed Blood</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.</td>
<td>85</td>
<td>90</td>
</tr>
<tr>
<td>N.</td>
<td>75</td>
<td>93</td>
</tr>
<tr>
<td>O.</td>
<td>81</td>
<td>90</td>
</tr>
<tr>
<td>P.</td>
<td>84</td>
<td>92</td>
</tr>
</tbody>
</table>
Indian children are not as intelligent as white children.

2. 100 per cent of the replies agree that mixed blood Indian children are not as intelligent as white children.

3. 100 per cent of the replies agree that mixed blood Blackfeet children are more intelligent than full bloods.

4. There is almost perfect agreement between the estimates of teachers and those of successful business men in the previous study.
RESULTS

OF

INTELLIGENCE TESTS
A fifth avenue of approach to the problem, and one which has apparently a more scientific basis, is thru the media of intelligence tests. A program was undertaken which included the testing of all children enrolled in the following schools:

2. Browning Elementary School, Browning, District 9.
5. Government Boarding School, (Elementary).
10. Mad Plume Elementary School, Family, District 7.
12. Glacier Park Elementary School, Glacier Park, District 50.

The Otis Group Intelligence Scale, Primary Examination, Form A was used in the Kindergarten, first, second, and third grades. The Otis Self-Administering Tests of Mental Ability Intermediate Examination: Form A, was used above the third grade. These tests were chosen for several rea-
acceptance in the field of intelligence testing; second, because of the ease with which they can be given and scored; and third, because they were used in a previous study of the intelligence of the Blackfeet Indians. The tests were given to one thousand children in the schools enumerated, but later eliminations reduced the number of tests available to 548. These eliminations were made for several reasons: first, only white children and those of definitely known degrees of Blackfeet Indian blood were desired in the study. All other Indians including Sioux, Crees, Chippewas, Flathead, and Assiniboine were eliminated, also those Blackfeet whose blood degree could not be definitely fixed.

Second, those children were eliminated who did not complete the achievement tests as it appeared advisable to have these two testing programs cover the same subjects. Third, one group of tests was eliminated which had been carelessly given. The remaining 548 tests were all given and scored by one of three persons: Mrs. Mary M. Reagan, Superintendent of Schools, Glacier County; Miss Ada Benedict, a teacher in the schools of District Nine; Glacier County; or the writer. The tests were given at the close of the school year in May, 1934. Conditions were demanded for the testing which approached ideal. The papers were

carefully scored, and the varying degrees of blood of all Blackfeet Indians whose papers were retained for the final analysis were established with meticulous care from the government census for 1934. Where thirty-second and sixty-fourth degrees of Indian blood appeared, the individuals were divided equally in the sixteenth groups above and below, or if equal distribution was difficult the papers were discarded. Table I shows the distribution of the several scores on the basis of sixteenth degrees of Indian blood.

TABLE I

Distribution of Intelligence Quotients
By Sixteenth Degrees of Indian Blood

<table>
<thead>
<tr>
<th>Indian Blood</th>
<th>Number Cases</th>
<th>Low</th>
<th>First Quart</th>
<th>Median</th>
<th>Third Quart</th>
<th>High</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>16/16</td>
<td>81</td>
<td>40</td>
<td>69</td>
<td>81</td>
<td>89</td>
<td>116</td>
<td>79(\frac{1}{2})</td>
</tr>
<tr>
<td>15/16</td>
<td>10</td>
<td>71</td>
<td>82(\frac{1}{2})</td>
<td>88(\frac{1}{2})</td>
<td>91(\frac{1}{2})</td>
<td>105</td>
<td>86(\frac{1}{2})</td>
</tr>
<tr>
<td>14/16</td>
<td>8</td>
<td>74</td>
<td>83</td>
<td>87</td>
<td>104</td>
<td>112</td>
<td>89-90</td>
</tr>
<tr>
<td>13/16</td>
<td>9</td>
<td>79</td>
<td>84(\frac{1}{2})</td>
<td>96</td>
<td>116-3/4</td>
<td>126</td>
<td>100</td>
</tr>
<tr>
<td>12/16</td>
<td>17</td>
<td>60</td>
<td>73(\frac{1}{2})</td>
<td>88</td>
<td>100-3/4</td>
<td>132</td>
<td>90(\frac{1}{2})</td>
</tr>
<tr>
<td>11/16</td>
<td>7</td>
<td>77</td>
<td>79-3/4</td>
<td>96</td>
<td>103(\frac{1}{2})</td>
<td>108</td>
<td>93</td>
</tr>
<tr>
<td>10/16</td>
<td>17</td>
<td>65</td>
<td>85(\frac{1}{2})</td>
<td>93</td>
<td>94(\frac{1}{2})</td>
<td>107</td>
<td>90-1/8</td>
</tr>
<tr>
<td>9/16</td>
<td>11</td>
<td>67</td>
<td>78-3/4</td>
<td>94</td>
<td>110</td>
<td>118</td>
<td>93(\frac{1}{2})</td>
</tr>
<tr>
<td>8/16</td>
<td>52</td>
<td>70</td>
<td>86</td>
<td>96</td>
<td>102</td>
<td>120</td>
<td>97(\frac{1}{2})</td>
</tr>
<tr>
<td>7/16</td>
<td>46</td>
<td>40</td>
<td>85(\frac{1}{2})</td>
<td>98</td>
<td>105(\frac{1}{2})</td>
<td>135</td>
<td>97-3/4</td>
</tr>
<tr>
<td>6/16</td>
<td>21</td>
<td>80</td>
<td>89</td>
<td>96</td>
<td>105</td>
<td>135</td>
<td>96-3/4</td>
</tr>
<tr>
<td>5/165</td>
<td>34</td>
<td>65</td>
<td>92</td>
<td>100</td>
<td>109</td>
<td>118</td>
<td>983/4</td>
</tr>
<tr>
<td>4/16</td>
<td>45</td>
<td>59</td>
<td>87</td>
<td>98</td>
<td>102</td>
<td>125</td>
<td>91</td>
</tr>
<tr>
<td>3/16</td>
<td>11</td>
<td>85</td>
<td>87-3/4</td>
<td>96</td>
<td>114-3/4</td>
<td>121</td>
<td>99(\frac{1}{2})</td>
</tr>
<tr>
<td>2/16</td>
<td>51</td>
<td>58</td>
<td>86</td>
<td>96</td>
<td>104</td>
<td>121</td>
<td>94(\frac{1}{2})</td>
</tr>
<tr>
<td>1/16</td>
<td>18</td>
<td>77</td>
<td>96(\frac{1}{2})</td>
<td>106</td>
<td>115(\frac{1}{2})</td>
<td>133</td>
<td>111</td>
</tr>
<tr>
<td>White</td>
<td>132</td>
<td>60</td>
<td>87</td>
<td>109(\frac{1}{2})</td>
<td>118</td>
<td>135</td>
<td>108(\frac{1}{2})</td>
</tr>
</tbody>
</table>
Table I shows the number of cases in each group, the range, the median, the mean, and the first and third quartile points. While definite trends are certainly noticeable in these several scores, the sampling in some of the sixteenth groups is too small to permit of a valid result. Accordingly it was decided to regroup the scores under five blood divisions instead of the original seventeen. When this regrouping had been completed there were 132 cases in the white group, 125 in the so-called "one quarter group" which includes the first four sixteenth; one hundred thirty-two cases in the so-called "one-half group" which includes five-sixteenths, six-sixteenths, seven sixteenths, and eight-sixteenths; fifty-two cases in the so-called "three quarter group" which includes nine-sixteenths, ten-sixteenths, eleven-sixteenths, and twelve-sixteenths; and one hundred and seven cases in the so-called "full blood group" which includes thirteen-sixteenths, fourteen-sixteenths, fifteen-sixteenths, and full bloods. The result of the regrouping and retabulation on this basis is shown in Table II.
TABLE II

Distribution of Intelligence Quotients
By Quarter Degrees of Indian Blood

<table>
<thead>
<tr>
<th>Indian Blood</th>
<th>Number Cases</th>
<th>Low</th>
<th>First Quart</th>
<th>Median</th>
<th>Third Quart</th>
<th>High</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full</td>
<td>107</td>
<td>40</td>
<td>71</td>
<td>83</td>
<td>91</td>
<td>126</td>
<td>80.2</td>
</tr>
<tr>
<td>Three Quarter</td>
<td>52</td>
<td>60</td>
<td>79</td>
<td>92</td>
<td>104</td>
<td>132</td>
<td>91.6</td>
</tr>
<tr>
<td>Half</td>
<td>132</td>
<td>40</td>
<td>89</td>
<td>98</td>
<td>106</td>
<td>135</td>
<td>98</td>
</tr>
<tr>
<td>One Quarter</td>
<td>125</td>
<td>58</td>
<td>88</td>
<td>96</td>
<td>106</td>
<td>133</td>
<td>96.3</td>
</tr>
<tr>
<td>White</td>
<td>132</td>
<td>60</td>
<td>103</td>
<td>109</td>
<td>118</td>
<td>135</td>
<td>108.4</td>
</tr>
</tbody>
</table>

The totals under the quarter grouping were subdivided to show possible sex differences. The totals were rather evenly divided between boys and girls except in the case of the full bloods where the girls outnumbered the boys nearly two to one. The results of this classification are shown in Table III.
Distribution of Cases to accompany Graph of Intelligence quotients.

Graph I.

<table>
<thead>
<tr>
<th>Full</th>
<th>3/4</th>
<th>1/2</th>
<th>1/4</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>107</td>
<td>1</td>
<td>52</td>
<td>2</td>
</tr>
<tr>
<td>0</td>
<td>107</td>
<td>1</td>
<td>51</td>
<td>4</td>
</tr>
<tr>
<td>1</td>
<td>107</td>
<td>2</td>
<td>50</td>
<td>21</td>
</tr>
<tr>
<td>7</td>
<td>106</td>
<td>10</td>
<td>40</td>
<td>34</td>
</tr>
<tr>
<td>19</td>
<td>19</td>
<td>18</td>
<td>38</td>
<td>39</td>
</tr>
<tr>
<td>33</td>
<td>80</td>
<td>9</td>
<td>20</td>
<td>19</td>
</tr>
<tr>
<td>23</td>
<td>47</td>
<td>6</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>12</td>
<td>24</td>
<td>4</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>12</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
TABLE III

Distribution of Intelligence Quotients
By Quarter Degrees of Indian Blood, Boys and Girls Segregated.

<table>
<thead>
<tr>
<th>Indian Blood</th>
<th>Number Cases</th>
<th>Low</th>
<th>First Quart</th>
<th>Median</th>
<th>Third Quart</th>
<th>High</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>G</td>
<td>B</td>
<td>G</td>
<td>B</td>
<td>G</td>
<td>B</td>
</tr>
<tr>
<td>Full</td>
<td>39</td>
<td>68</td>
<td>45</td>
<td>40</td>
<td>68</td>
<td>72</td>
<td>79</td>
</tr>
<tr>
<td>Three Fourths</td>
<td>23</td>
<td>29</td>
<td>65</td>
<td>60</td>
<td>88</td>
<td>77</td>
<td>92</td>
</tr>
<tr>
<td>Half</td>
<td>70</td>
<td>62</td>
<td>53</td>
<td>40</td>
<td>90</td>
<td>86</td>
<td>96</td>
</tr>
<tr>
<td>One Quarter</td>
<td>54</td>
<td>71</td>
<td>58</td>
<td>59</td>
<td>86</td>
<td>91</td>
<td>99</td>
</tr>
<tr>
<td>White</td>
<td>69</td>
<td>63</td>
<td>83</td>
<td>60</td>
<td>102</td>
<td>104</td>
<td>110</td>
</tr>
</tbody>
</table>
The median intelligence scores shown in Table II apparently bear a definite negative correlation to the degree of Indian blood, rising from 80.2 for the full bloods to 108.4 for the whites. In Table III in the segregation of sexes it is noted that full blood girls rank definitely higher than boys, three-fourths girls somewhat higher than boys, and half bloods slightly so. Of less than quarter blood the boys have a slight advantage. If these differences should continue to show in a testing of many thousands of cases the writer would be unable to resist the suggestion that Indian women, thru centuries when they were the hewers of wood and the drawers of water, the caretakers of the family and the providers of food, were developing, while their noble spouses danced, hunted, gambled and slept, an intelligence superior to that of the men.

Any instrument of measurement which is definitely constructed to measure the qualities of a given race of people is apt to be the subject of some suspicion in an attempt to apply it to the measurement of like qualities in another race. Is it not possible that the Blackfoot Indian, if measured in his vocabulary and in the field of his interest, might show an intelligence quotient that would be higher than the white man, measured in the same field? The element of language is possibly not important
as these tests were given at the end of the year, and even those children in kindergarten had had opportunity to acquire the language in which the various problems were stated. As a matter of fact, there was no child taking the test who did not understand the directions given, and few took it who had not been speaking English more or less freely for two years. It was felt, however, that a testing which would involve problems dealing only with subject matter definitely in the Indians' field of interest and knowledge might show higher quotients for the Blackfeet. Accordingly the tests were scanned with the purpose of choosing ten problems which might be readily associated with Indian life. The purpose was to then make comparative scores of the five blood groups on these items alone. In the intermediate examination the following ten problems were chosen:

Problem 1, dealing with four vegetables grown in the gardens of most Blackfeet Indians, and the word "stone" which is misplaced in the group. As a greater percentage of the Indians are farmers and gardeners than of the whites, the advantage in this problem should lie with the Indians.

Problem 2, dealing with the denomination of a saw as a tool. All Indians burn wood, and practically all saw their own wood. Many of the white children live in heated apartments or burn coal. The advantage here should lie
Problem 3, dealing with the terms "east" and "west."
The writer is convinced that these terms are more commonly
used by Indians than by whites.

Problem 4, dealing with gloves and shoes. Indians
wear gloves and shoes; so do white people. It is doubtful
if the Indian would suffer any handicap in the use of this
problem.

Problem 6, dealing with parts of a tree. (See problem
2 above). The Blackfeet certainly have greater opportunity
to observe and live among trees than the white children of
Browning.

Problem 7, dealing with the likeness of the word "bowl"
to other table utensils. The bowl is such an important item
in the Indian's tableware that he would certainly suffer no
handicap in the use of this problem.

Problem 12, dealing with the meaning of the word "ugly".
This is one of the commonest adjectives in the Indian's
vocabulary,

Problem 17, dealing with four fruits. The Indians
are great users of dried fruits. The four mentioned: plums,
apricots, apples, and peaches are undoubtedly more common
in their diet (in dried form) than in the diet of the aver-
age white family.

Problem 20, dealing with the sheep-lamb relation. The
Indian, without doubt, would have the advantage of experience
in this problem.
Problem 22, the horse, pigeon, goat problem, would certainly be favorable to the experience of the Indian.

A tabulation of the results of these ten problem tests in terms of the divisions of Indian blood shows the following results:

<table>
<thead>
<tr>
<th>Degree of blood</th>
<th>Mean score</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>9.40</td>
</tr>
<tr>
<td>Quarter blood</td>
<td>8.68</td>
</tr>
<tr>
<td>Half blood</td>
<td>8.72</td>
</tr>
<tr>
<td>Three quarter</td>
<td>8.00</td>
</tr>
<tr>
<td>Full blood</td>
<td>7.29</td>
</tr>
</tbody>
</table>

Except for a slight deviation in the quarter blood half blood relation, the scores show a definite negative correlation between degree of Indian blood and intelligence score. In comparing this portion of the test with the entire test (without reducing these selected scores to quotients), using the white intelligence quotient, and the white mean score on the partial tests as norms and calculating the percentages of the other race groups the Indian appears to have no advantage in this particular type of test, over his general intelligence quotient on the whole test, as shown in the table:
<table>
<thead>
<tr>
<th>Degree of blood</th>
<th>Percentage of white quotient</th>
<th>Percentage of white partial score</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Quarter blood</td>
<td>91.7</td>
<td>91.2</td>
</tr>
<tr>
<td>Half blood</td>
<td>89.5</td>
<td>92.7</td>
</tr>
<tr>
<td>Three quarter</td>
<td>86.0</td>
<td>85.1</td>
</tr>
<tr>
<td>Full blood</td>
<td>77.5</td>
<td>77.5</td>
</tr>
</tbody>
</table>

In the primary examination the following ten problems were chosen:

1. Putting a tail on the cat.
2. Choosing a rabbit as being able to run.
3. Selecting the chicken in different relations to others.
4. Putting an eye in the face.
5. Putting a finger on the hand.
6. Putting a spoke in a wagon wheel.
7. Putting a trigger on the gun.
8. Putting a shadow on the tree.
9. Arranging the sequence of birds nesting and hatching.
10. Arranging the sequence of chopping trees, sawing and splitting wood.

These were selected as certainly presenting no obstacle to the Indian if his field of experience is what is commonly credited to him. In numbers one to five he should suffer no
handicap, and in the last five he should have a definite advantage over the white child. The tabulation of the results of these ten problem tests in terms of divisions of Indian blood show the following results:

<table>
<thead>
<tr>
<th>Degree of blood</th>
<th>Mean score</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>6.22</td>
</tr>
<tr>
<td>Quarter</td>
<td>6.56</td>
</tr>
<tr>
<td>Half</td>
<td>6.58</td>
</tr>
<tr>
<td>Three quarter</td>
<td>7.19</td>
</tr>
<tr>
<td>Full blood</td>
<td>7.18</td>
</tr>
</tbody>
</table>

Except for a slight misplacement of three quarter and full blood scores, the result shows a positive correlation between mean scores and degree of Indian blood. In comparing this part of the test with the entire test (again without reducing the mean score to a quotient), using the white intelligence quotient and the white mean score on the partial test as norms, and calculating the percentages of the other race groups, the Indian, in the elementary grades, appears to have some advantage in this particular type of test, over his general intelligence quotient on the whole test. The table follows:
<table>
<thead>
<tr>
<th>Degree of Blood</th>
<th>Percentage of white quotient</th>
<th>Percentage of white partial score</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Quarter blood</td>
<td>91.7</td>
<td>105.4</td>
</tr>
<tr>
<td>Half blood</td>
<td>89.5</td>
<td>105.9</td>
</tr>
<tr>
<td>Three Quarter</td>
<td>86.0</td>
<td>115.6</td>
</tr>
<tr>
<td>Full</td>
<td>77.5</td>
<td>115.5</td>
</tr>
</tbody>
</table>

It might be noted here that the age grade differentiation between whites and Indians is considerable, but let us not detract from the accomplishment of the Indian in this part of the test in the first three grades. If we total the mean scores now of the two tests to get a result that can be more properly correlated with the intelligence quotients as they are produced by the whole school, we have the following:

<table>
<thead>
<tr>
<th>Degree of Blood</th>
<th>Percentage of white quotient</th>
<th>Percentage of white partial score</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Quarter blood</td>
<td>91.7</td>
<td>97.5</td>
</tr>
<tr>
<td>Half blood</td>
<td>89.5</td>
<td>97.7</td>
</tr>
<tr>
<td>Three quarter</td>
<td>86.0</td>
<td>97.4</td>
</tr>
<tr>
<td>Full</td>
<td>77.5</td>
<td>92.0</td>
</tr>
</tbody>
</table>

This indicates that when both tests are considered,
the Indian makes a much better score than his intelligence quotient would lead us to expect. With a slight variation from the curve in the case of the half bloods there is a positive correlation between the intelligence quotients and the special test scores. Likewise there is a negative correlation between the special test scores and the degree of Indian blood.

The following are submitted as results of the program of intelligence testing:

1. Blackfeet Indians decrease in intelligence as they increase in degree of Indian blood.

2. Blackfeet girls are more intelligent than boys in the full blood, three quarter, and half blood divisions. There is little difference in the quarter bloods.

3. Blackfeet children do better on those problems which deal with subject matter common to their environment, than they do with other problems. In the lower grades they do better than white children of the same grade, (not of the same age). In the upper grades they do not do as well as white children in the same grade; and as a group they do not do as well as white children on these selected problems.
RESULTS
OF
ACHIEVEMENT TESTS
In an effort to measure the achievement of Blackfeet children in school the following tests were used:

1. Detroit Word Recognition Test, Form A, For Primary Grades. World Book Company, Yonkers.

2. Detroit Reading Test, Test I, Form B, For Second Grade. World Book Company, Yonkers.


5. Kansas State Teachers' College Diagnostic Test in Arithmetic for Primary Grades, Form I and Form II, Grades One, Two, and Three. Emporia.

6. Kansas State Teachers' College Standardized Reasoning Test in Arithmetic, Test II, Form I, Grades Six and Seven.


Number Two Subtraction, Test Number Three Multiplication, Test Number Four Division; grades Four, Five, Six, Seven, Eight.


In selecting these tests the considerations were:

(1) ease of administering; (2) ease of scoring; (3) established norms; (4) multiple forms; (5) high reliability and validity. The tests were given to about one thousand children in the schools already indicated. Before proceeding to a consideration of the relative achievement of Indian and white children in these schools it might be well to make a brief survey of the situations pertaining on the Blackfeet Reservation.

There are five types of schools available for the Indian children of the Blackfeet Reservation. These are:

(A) Public schools; rural, village, town elementary, and high; (B) day schools; one room elementary; (C) boarding school; graded elementary; (D) non-reservation schools; graded elementary and high; (E) mission schools, parochial
elementary. All of these are for Indian children only except the public schools, which receive Indians and whites alike. It so happens that the Blackfeet boarding school does receive a few white children whose parents are employed at the school. As the objective of this test was to establish a means of comparison of achievement of Indians of the several degrees of blood and white children, the tests were given only in those schools where all these groups were in attendance. Accordingly the public schools were found to offer the best situation for the tests. Owing to the interesting distribution of degrees of blood in the boarding school, and the presence of a few white children, it was decided to give the tests in this school also. While it is true that in some of the rural schools tested there is a preponderance of full blood Indian children, the majority of the Indian children tested were attending schools where there was a continuous intermingling of full bloods, mixed bloods and whites in the same rooms, and under the direction of the same teachers. Most of these children, furthermore, had been accustomed to this intermingling during the full period of their school lives. It is noteworthy also that these children mingle freely in their homes and in other social relationships. There is no church, society, or club in the community where the
activity which is limited to the members of any one group. It is not within the province of this study to examine carefully the home conditions of these several groups. The writer is convinced that definite environmental differentiations exist there; but it is a fact that the community and school environments of the several groups of subjects involved in the tests are identical.

The tests were given at the close of the school year in the spring of 1934. They were given and corrected by the same three persons indicated under the intelligence testing program. The testing conditions approached the ideal and all papers or cases that were in doubt were eliminated. The remaining cases were five hundred and forty-eight in number and were identical with those reported under the division given to the intelligence test. The results of these tests converted into "B" scores are shown on the accompanying percentile graphs, and little comment is necessary to their presentation.

Spelling

It is not an uncommon event to hear a teacher in these schools say that Indian children are good spellers, or that spelling is the Indian's subject. Two years ago a full blood boy competing with hundreds of white children took first place in a county-wide spelling test in Glacier County. Many Indian children who make poor grades in arithmetic and
Distribution of cases to accompany graph of spelling achievement scores.

Graph II.

<table>
<thead>
<tr>
<th>Full</th>
<th>3/4</th>
<th>1/2</th>
<th>1/4</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>86</td>
<td>5</td>
<td>39</td>
<td>14</td>
</tr>
<tr>
<td>0</td>
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<td>0</td>
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<tr>
<td>0</td>
<td>82</td>
<td>0</td>
<td>34</td>
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<td>18</td>
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<td>34</td>
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<tr>
<td>1</td>
<td>64</td>
<td>3</td>
<td>24</td>
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<td>19</td>
<td>63</td>
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<td>21</td>
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<td>10</td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Graph II.

Spelling

White —
One Quarter —
One Half —
Three Quarter —
Full Blood —
grammar do excellent work in spelling. Unfortunately the words chosen from the Ayers spelling scale for the test were not of sufficient difficulty for the upper grades. Consequently the curve in this region is in need of smoothing. Little difference is evident between the scores of the white children, the quarter bloods, and the half bloods; the three quarters, however, and the full bloods show curves notably below the other three. The white children are in the highest line of the graph in all but a short arc of the curve.

Art

The Los Angeles art test consists of two distinct parts. The first, or Test 1, deals with recognition of proportion. Herein are shown rectangles, cups, bowls, and conventional art objects in varying proportions, and it is the task of the child to indicate which member of the group in each case approaches better proportions. The second part of the test which deals with originality of line drawing consists merely of several series of dots arranged in various relations, and the subject is to connect these dots with lines to indicate some object of his environment or of his imagination. Fearing that the objects portrayed in the first part of the test might in some cases be outside the experience of the Indian child, this part of the test was discarded. If the verdict of teachers teaching Indian children is of any value we must believe
Distribution of cases to accompany graph of

<table>
<thead>
<tr>
<th>Achievement in Art. Graph III.</th>
<th>Full</th>
<th>3/4</th>
<th>1/2</th>
<th>1/4</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 66</td>
<td>10 37</td>
<td>29 01</td>
<td>37 01</td>
<td>36 95</td>
<td></td>
</tr>
<tr>
<td>0 54</td>
<td>0 27</td>
<td>0 52</td>
<td>1 44</td>
<td>0 59</td>
<td></td>
</tr>
<tr>
<td>8 54</td>
<td>7 27</td>
<td>12 52</td>
<td>10 43</td>
<td>17 59</td>
<td></td>
</tr>
<tr>
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<td>0 40</td>
<td>0 33</td>
<td>0 42</td>
<td></td>
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<tr>
<td>0 46</td>
<td>0 20</td>
<td>2 40</td>
<td>2 33</td>
<td>1 42</td>
<td></td>
</tr>
<tr>
<td>12 46</td>
<td>4 20</td>
<td>11 38</td>
<td>9 31</td>
<td>11 41</td>
<td></td>
</tr>
<tr>
<td>1 34</td>
<td>3 16</td>
<td>10 27</td>
<td>10 22</td>
<td>12 30</td>
<td></td>
</tr>
<tr>
<td>0 33</td>
<td>0 13</td>
<td>0 17</td>
<td>1 12</td>
<td>0 18</td>
<td></td>
</tr>
<tr>
<td>30 33</td>
<td>12 13</td>
<td>17 17</td>
<td>11 11</td>
<td>17 18</td>
<td></td>
</tr>
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<td>3</td>
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</tr>
<tr>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
that Indian children are apt to give more free play to their imaginations in artistic expression than children of white blood. Horses, bears, tepees, people, mountains, and other objects of his environment are being constantly portrayed on paper by the Indian child. The teacher who might graciously accept the rapt attendance of John Wipes-His-Eyes to the page in front of him as evidence of a profound determination to master the subtleties of square root will probably find, upon a cursory trip down the aisle, that an untamed maverick is standing on his two front legs while a disconsolate cowboy in mid-air grabs frantically at a misplaced sombrero. No county fair or other exhibit in the Indian country is complete without a showing of Indian art, and the walls of every barber shop, railway station, and school toilet bespeak in unmistakable pictography the intricacies of the inmost soul of the imaginative redskin. Frequently the drawing continues while the teacher assigns the next day's reading lesson, while the white child across the aisle diagrams a sentence, and even while the recess bell rings an invitation to the less creative to come out and play. If there is any department of the school curriculum in which the Indian might be expected to excel his white brother it is here. The results of the test are disappointing to this expectation, however, as the full blood and three quarter trail notably behind the white child and those of lesser degree of Indian blood. The whites,
halves and quarters are closely bunched throughout the curve.

**Arithmetic Skills**

In the problems of this test little or no reasoning is required. The test measures merely the mastery of the fundamental skills by the individual tested. It has not seemed advisable to rate this test under the four heads corresponding with the four fundamental processes, and the percentile graph showing the results of this test indicates the composite score. Here for the first time the five groups take individual places on the graph during the greater arc of the curve. The full bloods, three quarter bloods, halves, quarters, and whites are located on the graph in definite relation, from low to high, to their degree of Indian blood.

**Arithmetic Reasoning**

In the arithmetic reasoning test the same condition prevails as is found in the arithmetic skill test, except that the scores of the several blood groups are more widely separated, and the lines on the percentile graph correspondingly more widely divergent than on the skills graph. In fact it is here that we find the greatest differentiation between the full blood Indian and the white child, and corresponding divergence between the lines indicating the quarter, halves, and three quarters. Except for two very brief overlappings between the quarter and half lines, the
<table>
<thead>
<tr>
<th>Skill</th>
<th>1/4</th>
<th>1/2</th>
<th>5/4</th>
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<td>5</td>
</tr>
<tr>
<td>1/2</td>
<td>2</td>
<td>4</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>5/4</td>
<td>15</td>
<td>22</td>
<td>31</td>
<td>42</td>
</tr>
<tr>
<td>Full</td>
<td>31</td>
<td>47</td>
<td>63</td>
<td>89</td>
</tr>
</tbody>
</table>

Graph IV: Distribution of cases to accompany graph of achievement in arithmetic skills.
Graph IV.

Arithmetic Research (Skills)

- White
- One Quarter
- One Half
- Three Quarter
- Full Blood
curves indicating the several blood groups are very individual in their location on the comparative graph. The three quarter group shows surprising achievement in the intermediate portion of the curve.

Reading

It is in reading that the language difficulty of the Blackfeet children becomes most apparent. It may be recalled that during the early schools on the reservation mention was sometimes made of the ability of these children in numbers; but at no place were they accused of being good readers. The full bloods, who suffer most from language handicap, show a wide divergence in score in the negative direction, while the white children are markedly superior. The halves, quarters, and three quarters show considerable overlapping throughout the curve with the halves holding a lead over the quarters in the lower grades which they yield beyond the sixth grade. The three-quarter group has a momentary second position at the second grade and are consistently high.

Writing

The penmanship scores show little that is significant, being so closely bunched—particularly in the upper years—as to indicate no marked differentiation in these several groups. The full bloods lag notably behind in the lower grades, while the three quarters who are nearest them in
Distribution of cases to accompany Graph on Reading. Graph VI.

<table>
<thead>
<tr>
<th>Full</th>
<th>3/4</th>
<th>1/3</th>
<th>1/4</th>
<th>Hits</th>
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</thead>
<tbody>
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<td>3</td>
<td>45</td>
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</tr>
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<td>2</td>
<td>96</td>
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<td>6</td>
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<td>9</td>
</tr>
<tr>
<td>14</td>
<td>86</td>
<td>4</td>
<td>31</td>
<td>16</td>
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<tr>
<td>11</td>
<td>72</td>
<td>8</td>
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<td>8</td>
</tr>
<tr>
<td>35</td>
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</tr>
<tr>
<td>12</td>
<td>12</td>
<td>3</td>
<td>5</td>
<td>11</td>
</tr>
</tbody>
</table>
Graph VI

Reading

White
One Quarter
One Half
Third Quarter
Full Blood
Distribution of cases to Accompany Chart on Achievement in Penmanship.

Chart VII.

<table>
<thead>
<tr>
<th>Total</th>
<th>3/4</th>
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<th>1/4</th>
<th>White</th>
</tr>
</thead>
<tbody>
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<td>1 93</td>
<td>2 79</td>
</tr>
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<td>184</td>
<td>1 39</td>
<td>4  84</td>
<td>2 92</td>
<td>1 77</td>
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<tr>
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<td>4 38</td>
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<td>5 76</td>
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<td>12 81</td>
<td>11 71</td>
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<td>3 46</td>
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<td>7  31</td>
<td>23 43</td>
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</tr>
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<td>116</td>
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<td>4 6</td>
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<tr>
<td>117</td>
<td>2  2</td>
<td>6  6</td>
<td>2 2</td>
<td>3  3</td>
</tr>
</tbody>
</table>
Graph VII.

Penmanship

White
One Quarter
One Half
Three Quarter
Full Blood
blood, lead thru this part of the curve. The whites hold a median position throughout while the half and quarter lines cross and recross each other.

Composite Score

In an effort to secure a composite picture of the relative standing of the several blood groups in the six tests, the scores for spelling, art, arithmetic skills, arithmetic reasoning, reading, and penmanship were averaged. The means of the scores in the six subjects graphed show the full blood notably below the other groups. The whites are in the lead thru most of the curve but in short arcs yield leadership to quarters and halves. The three quarters show up fairly well at the lower end of the curve, but drop definitely to second from last place as the curve progresses. It must be remarked again that these graphs of "B" scores take no account of age differentiation within the same grade. These scores are merely measures of achievement on a grade basis. As it is apparent from visitation in rooms where these several groups of children are working that the Indian children are somewhat older than the white children, it is pertinent to this study to ascertain to what degree this retardation of Indians or acceleration of whites actually exists. Accordingly an age grade distribution has been made which shows at a glance the effect of these factors. In this age grade table the normal distribution is included
Distribution of Cases to Accompany Graph on Composite Score in Achievement. Graph VIII.

<table>
<thead>
<tr>
<th>Full</th>
<th>3/4</th>
<th>1/2</th>
<th>1/4</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
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<td>42</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>90</td>
<td>1</td>
<td>42</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>90</td>
<td>0</td>
<td>41</td>
<td>3</td>
</tr>
<tr>
<td>0</td>
<td>90</td>
<td>3</td>
<td>41</td>
<td>9</td>
</tr>
<tr>
<td>5</td>
<td>90</td>
<td>3</td>
<td>38</td>
<td>19</td>
</tr>
<tr>
<td>6</td>
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</tr>
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<td>7</td>
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<td>13</td>
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<tr>
<td>16</td>
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<td>11</td>
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<tr>
<td>12</td>
<td>12</td>
<td>2</td>
<td>11</td>
<td>11</td>
</tr>
</tbody>
</table>
within the heavy black lines. Accelerated cases will lie above and to the left of the norm line, and retarded cases to the right and below the norm. By allowing a value of one point for each year distant from the norm line, and subtracting the accelerated cases from those retarded the following comparable score results.

<table>
<thead>
<tr>
<th>Retardation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Whites</td>
<td>.61</td>
</tr>
<tr>
<td>One quarter</td>
<td>1.12</td>
</tr>
<tr>
<td>One half</td>
<td>1.34</td>
</tr>
<tr>
<td>Three quarters</td>
<td>2.09</td>
</tr>
<tr>
<td>Full bloods</td>
<td>2.53</td>
</tr>
</tbody>
</table>

It is to be remembered that these scores represent no unit of measurement, merely a ratio. They mean that there is nearly twice as much retardation among quarter blood Blackfeet children as among white children in the same schools with the same teachers; slightly more than twice as much retardation among half bloods as among whites; slightly more than three times as much retardation among three quarter blood Blackfeet as among whites; and more than four times as much among full bloods.

The following conclusions are submitted as substantially supported by this study:

1. As measured by standardized achievement tests, Indians show lower achievement scores than white
children in art, spelling, arithmetic skills, arithmetic reasoning, and reading.

2. In these subjects the achievement of Indian children as measured by standardized tests is measurable by scores which are in negative correlation with their degrees of Indian blood.

3. In penmanship there is little measurable difference in the achievement of Indian and white children, or in the achievement of Indian children of varying degrees of Indian blood.

4. In a composite score of art, spelling, arithmetic skills, arithmetic reasoning, reading, and penmanship, as measured by standardized achievement tests, Indian children score lower than white children.

5. In a composite score of art, spelling, arithmetic skills, arithmetic reasoning, reading, and penmanship, as measured by standardized achievement tests, Indian children's scores are in negative correlation with their degrees of Indian blood.
SCHOOL ACHIEVEMENT

RECORDS
As the seventh part of this study it appeared that some value might attach to the evaluation that teachers were placing upon the comparative efforts of the Blackfeet Indian and white children as evidenced by the grades assigned them in the various school subjects. In order to obtain an exact alignment of pupils rated under this heading with those already evaluated under the other divisions of this study, the grades for the year 1933-34 only were used, as these were the only grades that would include the identical group used in other departments of this study. Even limiting ourselves to this group it soon became apparent that the groups studied would not be identical owing to the fact that the annual grades were available for those children only who had been in attendance in the public schools. The grades for those children enrolled in the boarding school were not available.

It was impossible to make this department of the study correspond exactly with that given over to the results of achievement tests, as only one grade was assigned to arithmetic on the annual teacher reports, while two grades were assigned to this subject under the achievement tests.

A few facts in each case are possibly worthy of note.

Spelling

At no point on the curve of spelling are the white children other than first. At the score of eighty the
Distribution of Cases
Showing Teachers' Grades
in Spelling.
To Accompany Chart X.

<table>
<thead>
<tr>
<th>Full</th>
<th>3/4</th>
<th>1/2</th>
<th>1/4</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>62</td>
<td>2</td>
<td>26</td>
<td>5</td>
</tr>
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<td>10</td>
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TEACHERS' GRADES SPELLING

WHITE
ONE QUARTER
ONE HALF
THE 2 QUARTER
FULL BLOOD
half bloods approach them but at all other locations their curve is unique. The half blood children, who ranked second in spelling in the achievement tests show a like ranking in teachers' grades, but the full bloods, who were lowest in achievement tests rank easily third in the teachers' marks. There is little significance to the scores of the three quarter and the one quarter groups. The teachers' grades are more closely bunched than the achievement grades which might reflect the belief on the part of the teacher that--by special effort--she is keeping the groups homogeneous in her class.

Arithmetic

As the arithmetic scores on the achievement tests fall into two groups, skills and reasoning, it is difficult to make a close comparison here with one score representing the teachers' estimate. While there is not quite the scatter in the teachers' scores that was evident in the results of the tests, there is certainly greater scatter here than in the case of the spelling grades. The white children hold an undisputed lead throughout the entire curve, and the full bloods are consistently last. The three quarters are next to the full bloods in low score. Their position agrees closely with their score on the arithmetic skills test, but is much lower than their position in the reasoning test. The curves for the halves and quarters cross several times but the quarters hold the lead the greater part of the time.
Distribution of Cases in Teachers' Grades in Arithmetic.
To Accompany Chart XI.

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**Distribution of Cases Showing Teachers' Grades in Reading.**

To Accompany Chart XII.

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Distribution of Cases Showing Teachers' Grades in Reading.
To Accompany Chart XII.

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</table>

Diagram showing the distribution of cases across different grades.
The results as a whole show a definite negative correlation between arithmetic ability, as evidenced by teachers' estimates, and degree of Indian blood.

Reading

In reading the teachers' grades give the white children the most definite lead which is assigned them in any of the subjects studied. The full bloods—as in the case of the achievement test scores—are definitely low. The three quarter, half, and one quarter groups are comparatively close in score but show definite relations. The quarters are second to the whites—definitely so—and the halves rate somewhat higher than the three quarters. The three quarters curve does, however, cross the half curve at one point. One interesting contrast in these results is evidenced in the fact that the test grades show a close bunching of the several groups in the lower scores, and a wide scatter in the higher end of the curve. The teachers' grades, on the contrary, are scattered in the lower part of the curve and tend to bunch at the upper end. The only explanation suggested for this is known tendency of teachers to credit older children in a grade with being brighter than they really are. It is in the upper grades that the greatest retardation of Indian children shows.
Distribution of Cases in Teachers' Grades in Penmanship.
To Accompany Chart XIII.

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the test results, are equally so in the record of teachers' grades. The full bloods, who were consistently low in the writing scale, grade much higher in the teachers' estimates. There is little else that is significant in the curves.

The following conclusions are submitted as substantially supported by this study:

1. As measured by grades awarded in daily school activity, Indians show lower achievement scores than white children in spelling, arithmetic, reading.

2. As measured by grades awarded in daily school activity, Indian children show achievement approximately in negative correlation to the degree of Indian blood in spelling, arithmetic, and reading.

3. As measured by grades awarded in daily school activity, Indians show favorably in comparison with white children, and Indians of considerable degrees of Indian blood show favorably in comparison with those of less degree of Indian blood, in penmanship.
PRESENT ACHIEVEMENT STATUS

OF

ADULT BLACKFEET
From the definite experience and knowledge of the writer the following conditions prevail in the social and economic relations of Blackfeet Indians with themselves and with white people among whom they live:

1. No full blood Indian has ever completed the high school course in the high school in the district which includes the Blackfeet reservation, altho a number have completed the entrance requirements, and several have advanced as far as the tenth or eleventh grades. Many white children, and many mixed blood Indian children who had the same teachers and attended school in the same rooms in the elementary school as those attended by the full bloods have completed the twelve year course and received the high school diplomas.

2. No full blood Indian within the knowledge of the writer has ever entered into competition with white people in the more complex social organization found off the Indian reservations and demonstrated his ability to meet successfully the competition of white people in their own environment.

3. The branch office of the Bureau of Indian Affairs, Department of the Interior, located on the Blackfeet Reservation at Browning feels that one of its chief duties is the protection of the full blood Indian in the management of his social and economic affairs, lest he become a
victim of the superior adroitness of his white and mixed blood neighbors.

4. Of over seven hundred Indians, mixed blood, and white who received from the Federal Government fee patents to valuable lands, more than ninety percent have been forced to hypothecate or relinquish title to these properties to mixed blood or white business men who suggested the hypothecation of these lands for a small part of their value.

5. Tuberculosis is thirteen times as prevalent among Indian people on the Blackfeet reservation as it is among their white neighbors. With intelligent care tuberculosis is demonstrably preventable.

6. Sad experience has shown, since the Indian has received the ballot, that the full blood Indian is clay in the hands of white or mixed blood demagogues who seek his vote.

7. Experience has shown that Indians, mixed blood and full blood, are notably poor providers for the future.
The purpose of this study was to ascertain what differences, if any, existed in the intelligence of Blackfeet Indian people of varying degrees of Indian blood; and what differences, if any, existed between the intelligence of Blackfeet Indians and white people. The problem was approached from eight different sides, involving the following techniques of investigation: historical, questionnaire, measurement, and case study. We believe the findings of the several parts of the study warrant the following conclusions:

1. In the time of Lewis and Clarke's expedition the Blackfeet were more intelligent than the other tribes living round about them.

2. In their earliest schooling the Blackfeet Indians showed some capacity for profiting by experience and instruction.

3. People who have long dealt with and associated with Blackfeet Indians are of the belief that they are not so intelligent as white people, and that their intelligence is roughly correlative negatively to their degree of Indian blood. Their estimates indicate a median of 100 for whites, a median of 90 for mixed bloods and a median of 83 for full bloods.

4. Teachers who have taught Blackfeet Indians along with white children are of the belief that they are not so intelligent as white people, and that their intelligence is roughly correlated negatively to their degree...
blood. Their estimates indicate median grades of 100 for the whites, 90 for mixed bloods, and 82.5 for full bloods.

5. Intelligence tests show that Blackfeet Indian children are not so intelligent as white children, and that the intelligence of Blackfeet Indians is roughly correlated negatively to their degree of Indian blood, the median scores being: full, 83; three quarters, 92; halves, 96; quarters, 96; and whites, 108.4.

6. Blackfeet girls are more intelligent than boys in the full blood, three quarter blood, and half blood divisions. There is little difference in the quarter bloods.

7. Blackfeet children do better on those problems which deal with subject matter common to their environment. Even here they are inferior to white children.

8. In penmanship Blackfeet Indian children show higher achievement quotients than white children, and full bloods show higher quotients than mixed bloods. In art, reading, spelling, arithmetic skills, arithmetic reasoning, however, Blackfeet Indians as measured by tests show lower achievement scores than white children, and the scores of the several degrees of Indian blood show scores which are definitely in negative correlation to their degrees of Indian blood.

9. As measured by grades awarded in daily school activity, Indians show lower achievement scores than white children in spelling, arithmetic, and reading. Children of varying degrees of Indian blood show scores in these subjects
in their daily school activity which are definitely in negative correlation with their degrees of Indian blood.

10. In penmanship Blackfeet Indians in all degrees of blood measure very favorably with white children, as shown by grades awarded them in daily school activity.

11. Experience has shown that blackfeet Indians become easy prey to white people who are attracted by their property; that the Federal Government feels the need of providing constant protection for them; and that they have not learned the elemental lesson of provision for the future.
BIBLIOGRAPHY
BIBLIOGRAPHY

Almack, John Conrad, Research and Thesis Writing, Boston, 1930.

Alter, Cecil, James Bridger, Salt Lake City, 1925.


Bell, W. S., Old Fort Benton, Helena, 1909.

Chittenden, Hiram M. and Richardson, Alfred T., Father De Smet's Life and Travels, III, New York, 1905.

Coyner, David, The Lost Trappers, Cincinnati, 1850.


Flandrau, Grace, The Story of Marias Pass, Great Northern Railway, Saint Paul.

Goodenough, Florence L., Measurement of Intelligence by Drawings, Yonkers-on-Hudson, 1926.


Hebard, Grace Raymond, Sacajawa, Guide of the Lewis and Clarke Expedition, Glendale, California, 1933.

Laut, Agnes C., Conquest of Our Western Empire, New York, 1927.


Monroe, Walter Scott; DeVoss, James Clarence; Kelly, Frederick James; Educational Tests and Measurements, Cambridge, Massachusetts, 1917.


... *Report of Montana State Board of Health*. Helena, 1930.


Richardson, C. A. Methods and Experiments in Mental Tests. Yonkers-on-Hudson, 1924.


St. John, Charles W. Educational Achievement in Relation to Intelligence. Cambridge, 1930.


Stuart, Granville. Forty Years on The Frontier. Cleveland, 1925.


APPENDIX I

SAMPLES OF TESTS USED
Read this page. Do what it tells you to do.

Do not open this paper, or turn it over, until you are told to do so. Fill these blanks, giving your name, age, birthday, etc. Write plainly.

- Name: First name, initial, and last name
- Age last birthday: __ years
- Birthday: Month Day
- Teacher: Name
- Date: __/___/___
- Grade:
- School: ___________
- City: ___________

This is a test to see how well you can think. It contains questions of different kinds. Here is a sample question already answered correctly. Notice how the question is answered:

Sample: Which one of the five words below tells what an apple is?
1 flower, 2 tree, 3 vegetable, 4 fruit, 5 animal

The right answer, of course, is "fruit"; so the word "fruit" is underlined. And the word "fruit" is No. 4; so a figure 4 is placed in the parentheses at the end of the dotted line. This is the way you are to answer the questions.

Try this sample question yourself. Do not write the answer; just draw a line under it and then put its number in the parentheses:

Sample: Which one of the five things below is round?
1 a book, 2 a brick, 3 a ball, 4 a house, 5 a box

The answer, of course, is "a ball"; so you should have drawn a line under the words "a ball" and put a figure 3 in the parentheses. Try this one:

Sample: A foot is to a man and a paw is to a cat the same as a hoof is to a — what?
1 dog, 2 horse, 3 shoe, 4 blacksmith, 5 saddle

The answer, of course, is "horse"; so you should have drawn a line under the word "horse" and put a figure 2 in the parentheses. Try this one:

Sample: At four cents each, how many cents will 6 pencils cost?

The answer, of course, is 24, and there is nothing to underline; so just put the 24 in the parentheses. If the answer to any question is a number or a letter, put the number or letter in the parentheses without underlining anything. Make all letters like printed capitals.

The test contains 75 questions. You are not expected to be able to answer all of them, but do the best you can. You will be allowed half an hour after the examiner tells you to begin. Try to get as many right as possible. Be careful not to go so fast that you make mistakes. Do not spend too much time on any one question. No questions about the test will be answered by the examiner after the test begins. Lay your pencil down.

Do not turn this page until you are told to begin.
EXAMINATION BEGINS HERE.

1. Which one of the five things below does not belong with the others?  
   1 potato, 2 turnip, 3 carrot, 4 stoie, 5 onion.  
2. Which one of the five words below tells best what a saw is?  
   1 something, 2 tool, 3 furniture, 4 wood, 5 machine.  
3. Which one of the five words below means the opposite of west?  
   1 north, 2 south, 3 east, 4 equator, 5 sunset.  
4. A hat is to a head and a glove is to a hand the same as a shoe is to what?  
   1 leather, 2 a foot, 3 a shoestring, 4 walk, 5 a toe.  
5. A child who knows he is guilty of doing wrong should feel (?).  
   1 bad, 2 sick, 3 better, 4 afraid, 5 ashamed.  
6. Which one of the five things below is the smallest?  
   1 twig, 2 limb, 3 bud, 4 tree, 5 branch.  
7. Which one of the five things below is most like these three: cup, plate, saucer?  
   1 fork, 2 table, 3 eat, 4 bowl, 5 spoon.  
8. Which of the five words below means the opposite of strong?  
   1 man, 2 weak, 3 small, 4 short, 5 thin.  
9. A finger is to a hand the same as a toe is to what?  
   1 foot, 2 toenail, 3 heel, 4 shoe, 5 knee.  
10. Which word means the opposite of sorrow?  
    1 sickness, 2 health, 3 good, 4 joy, 5 pride.  
11. Which one of the ten numbers below is the smallest? (Tell by letter.)  
    A 6084, B 5160, C 4342, D 6521, E 9703, F 4296, G 7475, H 2657, J 8839, K 3918.  
12. Which word means the opposite of pretty?  
    1 good, 2 ugly, 3 bad, 4 crooked, 5 nice.  
13. Do what this mixed-up sentence tells you to do.  
    Number Write the the in 5 parentheses.  
14. If we believe some one has committed a crime, but we are not sure, we have a (?).  
    1 fear, 2 suspicion, 3 wonder, 4 confidence, 5 doubtful.  
15. A book is to an author as a statue is to (?)  
    1 sculptor, 2 marble, 3 model, 4 magazine, 5 man.  
16. Which is the most important reason that words in the dictionary are arranged alphabetically?  
    1 That is the easiest way to arrange them, 2 It puts the shortest words first, 3 It enables us to find any word quickly, 4 It is merely a custom, 5 It makes the printing easier.  
17. Which one of the five things below is most like these three: plum, apricot, apple?  
    1 tree, 2 seed, 3 peach, 4 juice, 5 ripe.  
18. At 4 cents each, how many pencils can be bought for 36 cents?  
19. If a person walking in a quiet place suddenly hears a loud sound, he is likely to be (?)  
    1 stopped, 2 struck, 3 startled, 4 made deaf, 5 angered.  
20. A boy is to a man as (?) is to a sheep.  
    1 wool, 2 lamb, 3 goat, 4 shepherd, 5 dog.  
21. One number is wrong in the following series. What should that number be? (Just write the correct number in the parentheses.)  
    1 6 2 3 6 4 6 5 6 7 6.  
22. Which of the five things below is most like these three: horse, pigeon, cricket?  
    1 stall, 2 saddle, 3 eat, 4 goat, 5 chirp.  
23. If the words below were rearranged to make a good sentence, with what letter would the last word of the sentence begin? (Make the letter like a printed capital.)  
    Nuts from squirrels trees the gather.  
24. A man who betrays his country is called a (?)  
    1 thief, 2 traitor, 3 enemy, 4 coward, 5 slacker.  
25. Food is to the body as (?) is to an engine.  
    1 wheels, 2 fuel, 3 smoke, 4 motion, 5 fire.  
26. Which tells best just what a pitcher is?  
    1 a vessel from which to pour liquid, 2 something to hold milk, 3 It has a handle, 4 It goes on the table, 5 It is easily broken.  

Do not stop. Go on with the next page.
27. If George is older than Frank, and Frank is older than James, then George is (?) James.
   1 older than, 2 younger than, 3 just as old as, 4 cannot say which (1)

28. Count each 7 below that has a 5 next after it. Tell how many 7's you count.
   7 5 3 9 7 3 8 7 5 4 2 1 5 7 3 2 4 7 0 9 3 7 5 5 7 2 3 5 7 5 4 7 (2)

29. If the words below were rearranged to make a good sentence, with what letter would the last
   word of the sentence begin? (Make the letter like a printed capital.)
   leather shoes usually made are of (3)

30. An electric light is to a candle as a motorcycle is to (?)
   1 bicycle, 2 automobile, 3 wheels, 4 speed, 5 police (2)

31. Which one of the words below would come first in the dictionary?
   1 march, 2 ocean, 3 horse, 4 paint, 5 elbow, 6 night, 7 flown (3)

32. The daughter of my mother's brother is my (?)
   1 sister, 2 niece, 3 cousin, 4 aunt, 5 granddaughter (3)

33. One number is wrong in the following series. What should that number be?
   3 4 5 4 3 4 5 4 3 5 (4)

34. Which of the five things below is most like these three: boat, horse, train?
   1 sail, 2 row, 3 motorcycle, 4 move, 5 track (1)

35. If Paul is taller than Herbert and Paul is shorter than Robert, then Robert is (?) Herbert.
   1 taller than, 2 shorter than, 3 just as tall as, 4 (cannot say which) (4)

36. What is the most important reason that we use clocks?
   1 to wake us up in the morning, 2 to regulate our daily lives, 3 to help us catch trains,
   4 so that children will get to school on time, 5 They are ornamental (1)

37. A coin made by an individual and meant to look like one made by the government is called (?)
   1 duplicate, 2 counterfeit, 3 imitation, 4 forgery, 5 libel (1)

38. A wire is to electricity as (?) is to gas.
   1 a flame, 2 a spark, 3 hot, 4 a pipe, 5 a stove (2)

39. If the following words were arranged in order, with what letter would the middle word begin?
   Yard Inch Mile Foot Rod (3)

40. One number is wrong in the following series. What should that number be?
   5 10 15 20 25 29 35 40 45 50 (5)

41. Which word means the opposite of truth?
   1 cheat, 2 rob, 3 liar, 4 ignorance, 5 falsehood (4)

42. Order is to confusion as (?) is to war.
   1 guns, 2 peace, 3 powder, 4 thunder, 5 army (3)

43. In a foreign language, good food = Bano Naab
   good water = Heto Naab
   The word that means good begins with what letter?
   1 a, 2 e, 3 o, 4 g, 5 h (1)

44. The feeling of a man for his children is usually (?)
   1 affection, 2 contempt, 3 joy, 4 pity, 5 reverence (2)

45. Which of the five things below is most like these three: stocking, flag, sail?
   1 shoe, 2 ship, 3 staff, 4 towel, 5 wash (2)

46. A book is to information as (?) is to money.
   1 paper, 2 dollars, 3 bank, 4 work, 5 gold (2)

47. If Harry is taller than William, and William is just as tall as Charles, then Charles is (?) Harry.
   1 taller than, 2 shorter than, 3 just as tall as, 4 (cannot say which) (3)

48. If the following words were arranged in order, with what letter would the middle word begin?
   Six Ten Two Eight Four (4)

49. If the words below were rearranged to make a good sentence, with what letter would the third
   word of the sentence begin? (Make the letter like a printed capital.)
   men high the a wall built stone (3)

50. If the suffering of another makes us suffer also, we feel (?)
   1 worse, 2 harmony, 3 sympathy, 4 love, 5 repelled (3)
52. If a man has walked west from his home 9 blocks and then walked east 4 blocks, how many blocks is he from his home?

53. A pitcher is to milk as (?) is to flowers.
   1 stem, 2 leaves, 3 water, 4 vase, 5 roots

54. Do what this mixed-up sentence tells you to do.
   sum three Write two the four and of

55. There is a saying, "Don't count your chickens before they are hatched." This means (?)
   1 Don't hurry. 2 Don't be too sure of the future. 3 Haste makes waste. 4 Don't gamble

56. Which statement tells best just what a fork is?
   1 a thing to carry food to the mouth, 2 It goes with a knife, 3 an instrument with prongs at the end, 4 It goes on the table, 5 It is made of silver

57. Wood is to a table as (?) is to a knife.
   1 cutting, 2 chair, 3 fork, 4 steel, 5 handle

58. Do what this mixed-up sentence tells you to do.
   sentence the letter Write last this in

59. Which one of the words below would come last in the dictionary?
   1 alike, 2 admit, 3 amount, 4 across, 5 after, 6 amuse, 7 adult, 8 affect

60. There is a saying, "He that scatters thorns, let him go barefoot." This means (?)
   1 Let him who causes others discomforts bear them himself also. 2 Going barefoot toughens the feet. 3 People should pick up what they scatter. 4 Don't scatter things around

61. If the following words were arranged in order, with what letter would the middle word begin?
   Plaster Frame Wallpaper Lath Foundation
   The word that means and begins with what letter?

62. In a foreign language, many boys = Boka Hepo
   many girls = Marti Hepo
   many boys and girls = Boka Ello Marti Hepo
   The word that means ow begins with what letter?

63. A statement which expresses just the opposite of that which another statement expresses is said to be a (?)
   1 lie, 2 contradiction, 3 falsehood, 4 correction, 5 explanation

64. There is a saying, "Don't look a gift horse in the mouth." This means (?)
   1 It is not safe to look into the mouth of a horse. 2 Although you question the value of a gift, accept it graciously. 3 Don't accept a horse as a gift. 4 You cannot judge the age of a gift horse by his teeth

65. Which one of the words below would come last in the dictionary?
   1 hedge, 2 glory, 3 label, 4 green, 5 linen, 6 knife, 7 honor

66. Which statement tells best just what a watch is?
   1 It ticks, 2 something to tell time, 3 a small, round object with a chain, 4 a vest-pocket-sized time-keeping instrument, 5 something with a face and hands

67. Ice is to water as water is to what?
   1 land, 2 steam, 3 cold, 4 river, 5 thirst

68. Which statement tells best just what a window is?
   1 something to see through, 2 a glass door, 3 a frame with a glass in it, 4 a glass opening in the wall of a house, 5 a piece of glass surrounded by wood

69. Which of the five words below is most like these three: large, red, good?
   1 heavy, 2 size, 3 color, 4 apple, 5 very

70. Write the letter that follows the letter that comes next after M in the alphabet

71. One number is wrong in the following series. What should that number be?
   1 2 4 8 16 24 64

72. An uncle is to an aunt as a son is to a (?)
   1 brother, 2 daughter, 3 sister, 4 father, 5 girl

73. If I have a large box with 3 small boxes in it and 4 very small boxes in each of the small boxes, how many boxes are there in all?

74. One number is wrong in the following series. What should that number be?
   1 2 4 5 7 8 10 11 12 14

75. There is a saying, "Don't ride a free horse to death." This means (?)
   1 Don't be cruel. 2 Don't abuse a privilege. 3 Don't accept gifts. 4 Don't be reckless
   If you finish before the time is up, go back and make sure that every answer is right.
OTIS GROUP INTELLIGENCE SCALE
Devised by ARTHUR S. OTIS

PRIMARY EXAMINATION: FORM A

My name is George Rite

My birthday is

On my last birthday I was 10 years old.

I am in the 1 grade.

The name of my school is New School

The name of this city is

The date today is May 9.

(Do not write below this line.)

Remarks or Further Data

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# EXAMINATION: FORM A

For Primary Grades

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<th>Name</th>
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- chair
- baby
- dog
- nest
- a girl running
- a bird in a tree
boy
bird
tree
bed
apple
door
house
girl
king
fire
man
mother
children
bread
a white horse
a black horse
two big balls
three little balls
a bird's house
a house on a hill
a father bear
a mother bear
a mother making a bed
a bird sleeping
a bird flying over a tree
some apples on a tree
some apples on the ground
a boy with some bread and milk
a boy playing in the rain
a girl running into a house
a girl running up a hill
a girl running down a hill
some leaves on a tree
some leaves under a tree
a boy going for a walk
a boy buying a can of corn
a father telling his little girl to come
a bird eating corn
a bird singing to her little ones
a girl giving her bird some water
Do not open this booklet until you are told to do so. Look at the sample stories. You will have time later to write your name, etc.

Sample Story A. Mary was playing with her doll. She was making a dress. The dress was long and white. When she put the dress on the doll it looked very pretty.

1. The dress was
   new  old  big  black

2. The dress made the doll look
   big  cross  little  pretty

Sample Story B. A little boy had a new picture book. He had pictures of cats, dogs, cows, and goats in it. He always looked at the pictures before he went to bed.

3. He looked at the book
   in the morning  in school  at night  in church

4. The boy had a
   book  ball  box  top

Sample Story C. The paper boy comes to our house. He carries papers in a wagon. He throws the paper on the step. Sometimes the wind blows it away and we can't find it.

5. Sometimes the paper is
   new  old  black  lost

6. The boy carries papers in a
   wagon  box  basket  bag
A. Some one at our house is very sweet. We all love him. He has big blue eyes. He sleeps in a little white bed. He is learning to talk and walk.

1. He is our father dog kitten baby

2. His eyes are blue black brown gray

B. Mother had just made a nice sweet cake. Mary asked for a piece. Mother said, “No, Mary. You must wait for the cake to get cold.”

3. The cake was brown old hot big

4. The cake was made by Mother Mary Father John

C. Mother pig had five little pigs. They all lived together in a pen. They helped each other every day and minded their mother. They ate and ate and grew big and fat.

5. The little pigs were good bad pretty white

6. Their home was in a yard basket house pen

D. Jack and Mary are going away. They are going to have a long ride on the water. The children will like to watch the water go up and down.

7. The children will go on a wagon box horse boat

8. They will watch the birds children water men
E. John was coming from school. He saw a dog that could not walk. John put his coat around the dog and took him home. Mother said he might keep him.

9. John was a
   bad boy  kind boy  pretty boy  cross boy

10. John took the dog
    to school  home  to baby  to father

F. Jack lives in the country. He helps his father take care of the chickens. Every morning he takes the eggs to the store and gets some money for them.

11. Jack
    sells eggs  plays store  plays fireman
    sells papers

12. Jack helps
    mother  father  baby  Mary

G. The little house is clean and white. In the windows boxes of red and blue flowers. White lilies grow in the garden. There are tall trees, too.

13. The place is
    pretty  old  big  dark

In the garden are
    balls  boxes  birds  lilies

H. Jack's mother told him to play in the yard. When the boys playing he ran out in the street. He had to go bed without any dinner.

Jack went to bed without his
    toys  food  mother  dog

Jack was told to play in the
    field  house  yard  street

I. Father gave Jack a funny tin man to keep his money in. His head was cut open part way. Father put ten cents into the man. This made Jack very happy.

17. Father gave Jack a wagon dog bank book

18. The tin man was funny big pretty red

J. One day in winter an old man came to Mary’s house. He had some paper flowers in a basket. The man had an old coat on. Mary’s mother gave him a good dinner.

19. The man was sick little poor strong

20. The flowers were made of grass tin paper gold

K. The boys are at play. Some of them are running around the field. One boy has a bat in his hand. He is working hard to win the game.

21. The boys are playing firemen school ball store

22. One of them has a flag bat book dog

L. It was snowing. Jack took baby for a ride on a sled. He went too fast for baby and she fell off. Baby laughed to see herself covered with snow.

23. Baby was happy hurt crying cross

24. Baby was riding in a wagon on a sled on a boat in a bag.
MONROE'S STANDARDIZED SILENT READING TEST REVISED

Name: ____________________________  Boy or Girl: ____________________________
Age last birthday: __________  Next birthday will be: __________
Grade: __________  Date: __________  City: ____________________________  State: ____________________________
School: ____________________________  Teacher: ____________________________

Below there are three exercises. Under each exercise there is a row of words printed in bold face type. Each exercise asks a question. You are to read each exercise and then answer the question by drawing a line under the right word printed in the black type.

Read the following exercises:

(a) Carl, George, Jane, and Clara live in the same block. They all have little dogs to play with except Clara, who has a pretty white cat. Draw a line under the word which tells what Clara had.

dog  doll  buggy  cat  money

The answer to this exercise is "cat," so draw a line under "cat."

(b) Angel food cake should be baked in a slow oven. Mary has just put her cake in the oven to bake and has turned the gas on in full blast. Her cake, of course, was not a success. How do you think Mary felt?

happy  sad  proud  stubborn  glad

The answer to this exercise is "sad." Draw a line under "sad."

(c) John wished to make a box, but his father would not let him until Saturday, when there would be no school. Draw a line under the word which tells what John wanted to make.

aeroplane  wagon  kite  sled  box

The answer to this exercise is "box." Draw a line under "box."

On the three following pages there are a number of exercises like these to be read and answered. When the signal is given, turn over this page and begin. Work rapidly but remember that your answers must be right in order to count. Remember that you are to draw a line under only one word in each exercise. Also remember that this test is on three pages. When you finish one page, turn to the next.
1. One evening in the late autumn I saw some beautiful birds come out of the bushes. They were as white as snow. They were swans. They flew high in the air and sailed away to the warm South.

What kind of bird did I see?

pigeon duck goose canary swan

2. Hiawatha was a little Indian boy. He had no father and no mother. He lived with his grandmother. His home was in a wigwam near the river.

Draw a line under the word that tells with whom Hiawatha lived.

father mother grandfather uncle grandmother

3. Nowhere in the world do the children have so many good times as in Japan. They are allowed to play anywhere, and there are all sorts of toys and games for their amusement.

Draw a line under the word which best describes the children of Japan.

cross happy fretful good contented

4. The mother stork sat in her nest with her four little ones. At a little distance, on the roof, stood the father stork. He held one leg up and stood on the other.

Where does this paragraph say the father stork was standing?

chimney roof tree nest ground

5. Six white eggs on a bed of hay, Flecked with purple, a pretty sight! There as the mother sits all day, Robert is singing with all his might.

The above lines of a poem tell about a bird's nest. Of what does this stanza say the bird's nest was made?

sticks leaves hay moss grass

6. The door opened and in came a dog. The mice jumped off the table and ran into the hole in the floor. The poor little Country Mouse was so frightened!

Draw a line under the word below which tells what it was that frightened the mice.

cat man boy dog door

(To next page.)
I
m. When the goslings saw the white feet, they thought it their mother. They opened the door, and in came the wolf.

What did the goslings think it was at the door?

wolf father chicken dog mother

One day when the sun shown brightly little Silver as went to the woods to pick flowers. She saw a beautiful guy, and ran through the woods, trying to catch it.

Draw a line under the word that tells what Silver Locks in the woods.

birds bugs flowers squirrels butterfly

It was a rainy, dark, dismal day. The children had not allowed to go out to play all day. Their lessons were and the teacher cross. It was late in the afternoon.

Draw a line under the word that tells how the children felt.

active smiling happy cross good

10. The little Indian girl learned to cook and sew, and to the wigwam in order. This was not very difficult, as the of earth and was never swept.

Draw a line under the word below that tells of what the of the wigwam was made.

wood grass leaves skins earth

At last, by despair and by famine made bold,
All dripping with wet and all trembling with cold,
The cricket crept off to the miserly ant.

Draw a line under the word which tells how the cricket felt.

joyful gay unhappy hateful comfortable

12. "The golden rod is yellow,
The corn is turning brown,
The trees in apple orchards
With fruit are bending down."

Draw a line under the season of the year you think is used in this stanza.

autumn spring winter summer

(Turn to next page.)
13. In order to live in Holland the people have built dikes to keep the sea out, and have dug canals to drain the land. The water that collects inside the dikes is pumped out by windmills.

What word below most nearly describes the land in Holland.

- dry
- mountainous
- wet
- warm
- high

14. If we had no more birds in the summer than we have in winter, we should suffer very much from insects. We could not raise fruit, vegetables or grain, for the insects would eat them.

What does this paragraph say birds destroy?

- flowers
- fruit
- grain
- insects
- vegetables

15. A silly young cricket, accustomed to sing through the warm sunny months of gay summer and spring, began to complain, when he found that at home his cupboard was empty, and winter had come.

Draw a line under the word which best describes the cricket.

- wise
- faithful
- foolish
- proud
- prudent

16. The gay green grass comes creeping, so soft beneath their feet; the frogs begin to ripple, a music clear and sweet.

Draw a line under the name of the season this stanza describes.

- spring
- summer
- autumn
- winter

17. By the sound of the birch he urged some tardy teacher along the flowery path of knowledge. He was a conscientious man and ever bore in mind the maxim, "Spoil the rod and spoil the child."

What kind of school teacher does this paragraph describe?

- happy
- severe
- helpful
- likeable
- faithful

24. Daddy was running in a wagon on a sled on a boat in a back
Below there are three exercises. Under each exercise there is a row of words printed in bold face type. Each exercise asks a question. You are to read each exercise and then answer the question by drawing a line under the right word printed in the black type.

Read the following exercises:

(a) Carl, George, Jane, and Clara live in the same block. They all have little dogs to play with except Clara, who has a pretty white cat. Draw a line under the word which tells what Clara had.

- dog
- doll
- buggy
- cat
- money

The answer to this exercise is "cat," so draw a line under cat.

(b) Angel food cake should be baked in a slow oven. Mary has put her cake in the oven to bake and has turned the gas on in full. Her cake, of course, was not a success. How do you think Mary felt?

- happy
- sad
- proud
- stubborn
- glad

The answer to this exercise is "sad." Draw a line under sad.

(c) John wished to make a box, but his father would not let him. Saturday, when there would be no school. Draw a line under the word which tells what John wanted to make.

- aeroplane
- wagon
- kite
- sled
- box

On the three following pages there are a number of exercises like these to be read and answered. When the signal is given, turn over this page and begin. Work rapidly but remember that your answers must be correct in order to count. Remember that you are to draw a line under the correct word.
1. It was the garden-land of Antioch. Even the hedges, besides the lure of shade, offered passers-by sweet promises of wine and clusters of purple grapes. Over melon patches, and through apricot and fig tree groves, and groves of oranges and limes, the whitewashed houses of the farmers were seen.

What kind of land was this?

- barren
- hilly
- productive
- infertile
- desert

2. It was cold, bleak, biting weather; foggy withal; and he could hear the people in the court outside go wheezing up and down, beating their hands upon their breasts and stamping their feet upon the pavement-stones to warm them.

What kind of picture does this paragraph describe?

- comfortable
- luxurious
- cheerless
- pleasant
- exciting

3. "I," said the duck, "I call it fun, for I have my little red rubbers on. They make a cunning three-toed track in the soft, cool mud. Quack! quack!"

Draw a line under the word which tells what the duck likes:

- sunshine
- rain
- wind
- ice

4. The dog lay down. The rooster flew to the top of a tree and the cat climbed to one of the branches. Before they went to sleep the rooster saw a light in the forest. He called to his friends:

Where was the light the rooster saw?

- sky
- house
- barn
- wagon
- forest

5. Shut in from the world without we sat the clean-winged hearth about, content to let the north wind roar in baffled rage at pane and door, while the red logs before us beat the frost back with tropic heat.

Draw a line under the word which best describes these people:

- frightened
- cold
- contented
- hungry
- gloomy

6. O suns and skies and clouds of June, and flowers of June together, you can not rival for one hour October's bright blue weather.

Which month does this stanza say is the more pleasant?

- April
- September
- June
- May
- October

(Go to next page.)
7. Her couch was dressed here and there with some winter berries and green leaves, gathered in a spot she had been used to favor. "When I die, put near me something that has loved the light, and had the sky above it always."

What had the girl loved most?

- pretty clothes
- nature
- money
- candy
- to play

8. The boy stood on the burning deck,
   Whence all but he had fled;
   The flame that lit the battle's wreck,
   Shone round him o'er the dead;
   Yet beautiful and bright he stood,
   As born to rule the storm.

What word best describes the boy?

- cowardly
- mischievous
- brave
- young
- good

9. At every turn the maples burn,
   The quail is whistling free.
   The partridge whirs and the frosted burrs
   Are dropping for you and me.

About what season of the year does the stanza tell? Draw a line under the one you think.

- spring
- summer
- autumn
- winter

10. Aladdin's uncle said, "I will take a shop and furnish it for you." Aladdin was delighted with the idea, for he thought that there was very little work in keeping a shop. He liked that better than anything else.

What kind of boy was Aladdin?

- industrious
- ambitious
- active
- lazy
- honest

11. The caravan, stretched out upon the desert, was very picturesque; in motion, however, it was like a lazy serpent. By and by its stubborn dragging became intolerably irksome to Balthasar, patient as he was.

Place a line under the word which tells in what respect the caravan resembled a serpent.
12. He was lying alone, one sunny spring day, on a mossy bank beside the clear stream flowing past with steady, ceaseless motion. He had his book open in his hand, but he was not reading.

Draw a line under the word which tells why he was not reading.

frightened asleep hungry cold unhappy

13. As a race, the Indians have withered from the land. Their arrows are broken, their council-fire has long since gone out on the shore, and their war cry is fading to the untrodden West. Slowly and sadly they climb the distant mountains, and read their doom in the setting sun.

How do the Indians feel?

happy angry excited sad tired

14. In front the purple mountains were rising up, a distant wall. Cool snow gleamed upon the summits. Our horses suffered bitterly for water. Five hours we had ridden through all that arid waste without a pause.

Through what kind of country had these people been riding?

mountainous swampy desert forest valley

15. Tracking was very difficult. As there was total absence of rain, it was next to impossible to distinguish the tracks of two-days' date from those most recent upon the hard parched soil.

Draw a line under the word below that tells what it that made tracking difficult.

mud snow drouth rocks grass

16. The soldier crawled out of the trench, where he spent the night. He was covered with mud from head to and almost frozen. He looked around at his company. What a miserable lot they were!

How did the soldier feel?

happy patriotic brave angry downhearted
Diagnostic Test in Addition
Devised by Albert E. Lunceford
For
Primary Grades

Name: Betty Hudson Age today 7-10
Race: White Sex: F Grade: 2
City: State: Mont. Date: 9-14
School: Teacher: 

The teacher should read the instructions on page three before giving the test.

Directions for Giving the Test

After telling the children not to open the papers, ask those on the front seats to distribute the papers, placing one face up upon the desk of each pupil. Have each child, with the help of the teacher, fill in the blank space at the top of this page. Then make clear the following:

Instructions to be read by teacher and pupils together.

On the other side of this sheet are some addition examples which I want you to work for me. There are quite a number of them but they are easy, and I want you to write the answer to each one. Remember answers do not count if they are wrong, so be very careful to get them right. Work just as fast as you can. Start when I say, "BEGIN" and when you have finished the last one, leave the paper on the desk. Then sit very quietly while the other children finish their problems. No questions are to be asked or answered after the test begins. Do you all understand? Remember, work hard and fast, and get all the problems right. Now turn over the page. "BEGIN."
(For form II say, "Now turn over to the last page. "BEGIN").
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</tbody>
</table>
Instructions for the teacher

This test is for the Primary Grades, but it may be used for the upper grades.

Form I should be given the first thing in the morning.
Form II should be given immediately after the first intermission.

Desks should be cleared of books and papers. Each child should have two well sharpened pencils. Instructions should be read slowly and distinctly. Nothing must be permitted to interfere with or detract from the task at hand. In reading the “Instructions to the Children,” stress the idea that they are to be ACCURATE in the work first, and then they are to work as rapidly as possible.

The value of this test is in the field of analysis. The purpose is to find out what combinations the children do not know. In the first grade the main thing is to see if the child can work the examples. The time is not so important. In the second and third grades the object is to see if the child’s responses are automatic, that is, to see if he has the combinations well enough so that they will stay with him. As soon as the child can do the fifty-four combinations correctly in one minute we may draw the conclusion that the combinations have become automatic. To use the test for a diagnostic purpose allow the child all the time he wants to use. Record, if possible, the time it takes the child to do the test.

When this test is used as a group test, allow the median time given below for each grade. Your standard then is a perfect score in the time indicated. Those students finishing before time is called may be considered above the standard. Those who do not finish in the time allowed or who make mistakes may be considered below the standard.

The time for the test for each grade was determined by taking the median time on 2,500 cases from eight Kansas towns. The time for the five upper grades may be regarded as not definitely fixed, since the majority of the cases were in the first three grades.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Time (min.)</th>
<th>Grade</th>
<th>Time (min.)</th>
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</thead>
<tbody>
<tr>
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<td>2</td>
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<tr>
<td>2</td>
<td>5</td>
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<td>1 1/2</td>
</tr>
<tr>
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<td>4</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>8</td>
<td>1</td>
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</table>

Grade the papers carefully and make a heavy X through each wrong answer. Count the number right and record it and the time in the places indicated.
<table>
<thead>
<tr>
<th>FORM II</th>
<th>TIME</th>
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<tbody>
<tr>
<td></td>
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<tr>
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<td>1</td>
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<td>10</td>
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<td>03</td>
<td>10</td>
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<td>49</td>
<td>10</td>
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<td>13</td>
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<td>59</td>
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<tr>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>
STANDARDIZED REASONING TEST IN ARITHMETIC
Devised by Walter S. Monroe

For Grades 6 and 7

State  Date

Name  Age  Grade

Browning  Teacher

Directions for Giving the Test

The teacher should see that each pupil is provided with a well-sharpened pencil and that books and papers have been removed from the desks. After telling the pupils to begin work until directed to do so, have those on the front seats disseminate test papers, placing one upon the desk of each pupil in the class. Have the pupils fill in the blanks at the top of this page and then make clear the following directions: On the other pages of this folder there are printed a number of problems. You are to solve each problem in the blank space to the right. Solve the problems in the order in which they have been taught. Arrange your work so that it will be easily understood by the papers, but you are not expected to copy it. Do not work on any problem until you are sure you have placed all of your work. Solve the problems in the order in which they are given. Work rapidly, but remember that a problem must be done before you count on your score. Ask any questions which you may have now, because you cannot ask them after you begin work."

The purpose of the test is to find out how well the pupils can understand the form of statement used in the problems. It is not intended as a time test, but those who desire a rate score may do so by having each pupil draw a line around the number of the problem he is working at the end of 10 minutes. The pupils should then continue their work until they have completed the test. As soon as a pupil finishes, collect his paper. Collect at the end of 25 minutes.

Inations for scoring the test papers and for recording the scores are given on the record sheet.
1. A girl having \( \frac{3}{4} \) yd. of ribbon bought \( \frac{1}{2} \) yd. more. What part of a yard had she then?

\[
\begin{align*}
\text{P} & = 2 \\
\text{C} & = 1
\end{align*}
\]

2. A piece of ribbon \( 4\frac{3}{8} \) yards long is cut from a bolt containing 10 yards. How many yards are left?

\[
\begin{align*}
\text{P} & = 2 \\
\text{C} & = 2
\end{align*}
\]

3. There are 31.5 gallons in a barrel. How many gallons are there in 63 barrels?

\[
\begin{align*}
\text{P} & = 2 \\
\text{C} & = 2
\end{align*}
\]

4. If a horse eats \( \frac{3}{8} \) bushels of oats a day, how long will 6 bushels last?

\[
\begin{align*}
\text{P} & = 2 \\
\text{C} & = 2
\end{align*}
\]

5. When a 20-pound cheese is worth \$1.90, how much will a 10-pound cheese cost?
Four loads of hay are to be put into a barn. The first load weighs 1.125 tons; the second 1.75 tons; the third, 1.8 tons; the fourth, 1.9 tons. Find the weight of the four loads.

\[ \begin{align*}
\text{First load} & : 1.125 \\
\text{Second load} & : 1.75 \\
\text{Third load} & : 1.8 \\
\text{Fourth load} & : 1.9 \\
\hline
\text{Total weight} & : 13.7 \text{ tons}
\end{align*} \]

A baker used \( \frac{3}{4} \) lbs of flour to make a loaf of bread. How many loaves could he make from a barrel (196 lbs) of flour?

\[ \frac{3}{4} \cdot \frac{196}{x} = 57 \]

My telephone bill is $12.85 a month. At that rate how much should I pay in 2\( \frac{3}{4} \) years?

\[ \frac{3}{4} \cdot \frac{12}{85} \]

A man spent $6.50 for board, $12.25 for clothing, $5.20 for books, and had $12 left. How many dollars and cents had he at first?

\[ \frac{12.25}{12.50} \]

A boy saves \( \frac{1}{4} \) cents on a picture by doing his own developing and printing. This is a saving of how much for each dozen pictures?

\[ \frac{7}{4} \times \frac{3}{2} = 21 \]
Arithmetic. Test No. 4. Division

You will be given eight minutes to work as many of these division examples as possible. You are not expected to be able to do them all. Do your work directly on this paper; use no other. You will be marked for both speed and accuracy, but it is more important to have your answers right than to work a great many examples.

<table>
<thead>
<tr>
<th>Example</th>
<th>Quotient</th>
<th>Remainder</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>64)51392</td>
<td>805</td>
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<td>35)10150</td>
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<td>98)81438</td>
<td>432</td>
<td>10</td>
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<td>72)36432</td>
<td>498</td>
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<td>46)34086</td>
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<td>2</td>
</tr>
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<td>736</td>
<td>2</td>
</tr>
<tr>
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<td>73)70153</td>
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<tr>
<td>25)5225</td>
<td>98</td>
<td>415</td>
</tr>
</tbody>
</table>
# PART I

## TEST 1. RECOGNITION OF PROPORTION, 10 Minutes

## TEST 2. ORIGINALITY OF LINE DRAWING, 20 Minutes

Do not open this paper, or turn it over, until you are told to do so. Fill these blanks, giving your name, age, birthday, etc. Write plainly.

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Birthday:** [Month] [Day]  

**School:**  

**Teacher:**  

**Date:** [Month] [Day]  

## Profile

<table>
<thead>
<tr>
<th>Part I</th>
<th>Raw Score</th>
<th>Norm Standing</th>
<th>Ability Rating</th>
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</thead>
<tbody>
<tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test 2. Originality of Line Drawing</td>
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<td></td>
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</table>

## Part II

<table>
<thead>
<tr>
<th>Test 3. Observation of Light and Shade</th>
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<tbody>
<tr>
<td>Test 4. Knowledge of Subject Matter</td>
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<td></td>
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<tr>
<td>Test 5. Visual Memory of Proportion</td>
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</tbody>
</table>

## Part III

| Test 6. Analysis—Cylindrical Perspective |          |               |                |
| Test 7. Analysis—Parallel Perspective | Avg.*   |               |                |
| Test 8. Analysis—Angular Perspective   |          |               |                |
| Test 9. Recognition of Color |          |               |                |

*Note: Average Tests 6, 7, 8 to find norm standing for analysis of perspective.

**Total:**  

**Average:**  

**Recommendations:**

---

Published by Research Service Co.  
425 S. Van Buren Pk.  
Los Angeles, Calif.
TEST 1. RECOGNITION OF PROPORTION.

DIRECTIONS: (To be read aloud by examiner and silently by pupils).

This is a test to show how well you can judge designs and shapes. On the two pages are fifteen sets of pictures. Each set includes figures from bad to good in shape. You are to pick out the one you like best in each set and mark it with an (X). The first set is a sample. Rectangle Number 3 is the best one so it has been marked with an (X). Now do the other fourteen sets in the same way, beginning with the bowls.

(Time Limit: 10 minutes)

Rectangles

Sample Set

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<thead>
<tr>
<th>1</th>
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Bowls

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Cup Handles

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Friezes

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<tr>
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Cornices or Mouldings

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<th>4</th>
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</thead>
</table>

Curves

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</table>

Balance of two equal masses

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
</table>

Go right on with the problems on the next page.
Balance of two unequal masses

Balance of one mass with two equal masses

Space division with single lines

Space division with double lines

Space division with several lines

Composition with one object

Composition with two objects

Composition with landscape
TEST 2. ORIGINALITY OF LINE DRAWING.

DIRECTIONS: (To be read aloud by examiner and silently by pupils).
What interesting things can you draw in the ten sets of dots below? Perhaps they will joyful, serious, tragic, humorous, entertaining or decorative. Draw some pleasing well proportioned shape in each of the spaces. Let each drawing include all dots in that particular space. You may use straight or curved lines. If you wish you may add lines to improve your drawing. Draw any object your imagination may suggest. With one word tell what you have drawn.

(Time Limit: 20 minutes)
APPENDIX II

MATHEMATICAL CALCULATIONS