

ARITHMETIC

Tuesday, January 19, 1915—9.15 a. m. to 12.15 p. m., only

Write at top of first page of answer paper (a) name of school where you have studied, (b) grade of work completed in arithmetic.

The minimum requirement is the completion of the work of the seventh grade in arithmetic, as outlined in the 1910 syllabus for elementary schools.

*Answer 12 questions, including all the questions in group I and seven from group II. No credit will be allowed unless all operations (except mental ones) necessary to find results are given; simply indicating the operations is not sufficient. Reduce each result to its simplest form and mark each answer Ans.*

No credit will be allowed for any one of the first five questions if the result is incorrect.

Group I

Answer all the questions in this group.

1 If barbed wire costs 2 cents a foot, what will it cost to put 5 wires around a field  $42\frac{1}{4}$  rods long and  $36\frac{3}{4}$  rods wide?

2 How much change should you receive from a two-dollar bill, after paying for  $2\frac{1}{4}$  pounds butter at 36 cents a pound and  $1\frac{1}{2}$  dozen eggs at 34 cents a dozen?

3 At 15 cents a bushel, find the cost of enough cotton seed to plant 242.4 acres of land, if each acre requires 1.75 bushels.

4 An automobile was driven 64.4 miles in  $3\frac{1}{2}$  hours; what was the average rate of speed per hour?

5 A class in cooking gave a luncheon for which the following material was used: 2 cans salmon at 10 cents a can; 4 eggs at 36 cents a dozen;  $\frac{1}{3}$  of a peck of potatoes at 30 cents a peck; 2 cans peas at 10 cents a can; 2 quarts peaches at 15 cents a quart; flour 10 cents; 1 pound butter at 37 cents; 1 pound sugar at 6 cents; other items 15 cents. Sixteen persons were served. Find the cost per person.

Group II

Answer seven questions from this group.

6 How many Red Cross bandages 3 inches wide and 6 feet long can be made from 14 yards of linen  $\frac{3}{4}$  of a yard wide?

7 A farmer has 240 fowls for which he is offered by one market man  $12\frac{1}{2}$  cents per pound and by another market man \$4.75 per dozen fowls; if the average weight of the fowls is  $3\frac{1}{4}$  pounds, which is the better offer and by how much?

ARITHMETIC — *concluded*

8 A house and lot cost \$3600; the taxes were \$52, insurance \$8 and repairs \$24 for the year. How much rent must the owner charge to obtain 6% on his investment of \$3600?

9 A carpenter took a job of repairing a barn for \$285; he hired 8 men at \$2.50 per day and 3 men at \$1.75 per day; all the men worked 9 days. What was the carpenter's profit on the job?

10 If \$2.25 per gross is paid for school pencils, what will be the cost of the pencils for 48 pupils if each pupil has one pencil?

11 A farmer sells chickens to a butcher at 15 cents per pound; the butcher sells them at a 60% advance on the cost. How much would a customer save in purchasing a three-pound chicken if he could purchase direct from the farmer?

12 On July 1, 1913, I loaned \$650 at the rate of  $5\frac{1}{2}\%$ ; what amount of principal and interest was due Jan. 1, 1915?

13 A celery grower had 3 acres of celery to which he applied 700 pounds of salt per acre; find the cost of the salt at \$2.10 per barrel of 280 pounds.

14 A boy sold 94 papers every day except Sunday; his profit was  $\frac{1}{2}$  of a cent on each paper. What was his profit for the month of August? [Assume that there were 31 days in the month, including four Sundays.]

15 If a family uses  $1\frac{1}{2}$  pounds of meat a day, how much will be saved in a month of 30 days by buying steak that costs 24 cents a pound rather than steak that costs 28 cents a pound?

16 A boy has \$96 in a bank that pays  $3\frac{1}{2}\%$ ; how much more interest would he receive each year if he were to draw his money out of that bank and place it in a bank that pays 4%?