# ARITHMETIC

**Tuesday,** January 20, 1914 — 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 question 1 and nine of the others. 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.*

1 See separate sheet.

2 What fractional part of a dollar is *each* of the following: 12½ cents, 16⅔ cents, 5 cents, 33⅓ cents, 75 cents, 10 cents, 37½ cents, 20 cents, 25 cents, 66⅔ cents?

3 Write in figures: (*a*) five hundred seven thousandths, (*b*) three thousand one hundred and six hundredths, (*c*) XLVII, XCIX

Write in words: (*a*) 45.706, (*b*) 90 7/8

4 A tank measuring 24 ft by 8 ft by 10 ft is half full of water; what is the weight of the water in tons? [A cubic foot of water weighs 62½ pounds.]

5 The Empire State Express leaves Buffalo at 1 p. m. and arrives in Albany at 6:57 p. m.; the distance is 296.53 miles. What is the average number of miles per hour made by the train?

6 Mr Brown sent to a commission firm 480 bushels of potatoes and 500 bushels of beans; the potatoes were sold at 72 cents a bushel and the beans at 98 cents a bushel; the firm charged 2½% commission. What amount was sent to Mr Brown?

7 A merchant buys a bill of goods amounting to $850, with discounts of 20% and 5%; find the net amount of his bill.

8 On Jan. 1, 1913 William Jones bought of Henry Abel a bill of goods amounting to $500, for which he paid by giving his note due March 15, 1913, with interest at 5%. Write the note. Compute the interest on the note when due.

9 A wire attached to the top of a pole 30 feet high reaches the ground 40 feet from the bottom of the pole; how long is the wire if the pole stands in a level field?

10 A quart of floor varnish will cover a space of 150 square feet; how much will it cost, at $2.80 a gallon, to varnish two floors whose dimensions are one 18 ft by 15 ft and the other 15 ft by 12 ft?

11 Define *each* of the following: improper fraction, commission, discount, square root of a number, radius.

12 Write the following tables of measures: linear, liquid, avoirdupois, dry.

# ARITHMETIC COMPUTATION TEST

[Ten minutes allowed for this question]

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1 *a* Add

| |
|---|
| 6 2 1 9 5 |
| 9 5 4 6 2 |
| 4 8 7 3 3 |
| 7 4 3 7 9 |
| 5 7 6 4 0 |
| 2 9 9 2 7 |
| 3 6 5 5 6 |
| 6 9 8 2 8 |
| 8 7 6 9 5 |
| 6 8 7 3 9 |
| 2 1 0 7 6 |
| 9 0 9 1 3 |
| 7 4 3 5 7 |
| 5 6 2 6 4 |
| 6 3 5 8 1 |

*b* Subtract

3 5 0 7 5
1 5 1 6 9

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*c* Divide

$487 \overline{)3267283}($