

ARITHMETIC

Tuesday, January 23, 1923—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 the first four questions and seven of the others. Reduce each result to its simplest form and mark each answer Ans.

Questions 1, 2, 3 and 4 are given as tests for accuracy; no credit, therefore, will be allowed unless the answer is correct.

1 Mental test on separate sheet. [10]

2 Copy and add the following: [8]

426.37; 725.06; 8942.6; 72.847; 62.25; .0725; 6377.48;
936.936; 7389; 35.896

Express the answer in words. [2]

3 From $3\frac{1}{2}$ subtract the product of $2\frac{1}{2}$ and $\frac{1}{4}$. [5]

4 Divide .09 by 1.385, carrying the quotient to four decimal places. [5]

5 Tell how to do each of the following:

a Divide a fraction by a fraction. [3]

b Raise a number to the third power. [3]

c Find the number of bushels in a bin if its length, height and depth in feet are given. [4]

6 On January 5, 1923, Robert Price bought from Platner and Sneek, Albany, N. Y., the following goods: $5\frac{1}{2}$ yards elastic at 16 cents a yard; $3\frac{1}{4}$ yards gingham at 76 cents a yard; 7 yards braid at 17 cents a yard; 4 sheets at \$2.50 each. Make out the bill [8]. What amount must be paid if the bill is discounted at 10% [2]?

7 Find the cost of 3 loads of coal weighing respectively 2610 lb, 1965 lb and 2425 lb, if the coal costs \$14.25 per ton and 50 cents extra per ton is charged for carrying it to the second floor. [10]

8 What will be the cost of laying a cement walk 12 rods long and 4 feet wide, at $17\frac{1}{2}$ cents a square foot? [10]

9 At 5% simple interest, find the amount due on a note for \$1785 for 1 year 9 months and 6 days. [10]

10 If a man owns 29 bonds at \$500 each, bearing interest at $3\frac{1}{2}\%$, how much does he receive at each semiannual interest period? [10]

11 The diameter of a circular park is 350 feet; find the cost of grading at 12 cents a square foot. [10]

12 A rectangular lot is 24 rods long and 15 rods wide; find the length of the diagonal, carrying your answer to two decimal places. [10]

13 The assessed valuation of a school district is \$25,000,000; the total tax is \$168,750. If Mr A's property is valued at \$8000, what is his tax? [10]

14 A merchant sold a piano for \$480, thereby making a profit of 60%. Do not solve in figures but tell in good, clear English sentences what you would do to find the cost of the piano and the merchant's gain, explaining the reason for each step of the process. [10]

ARITHMETIC MENTAL TEST

4

[Fifteen minutes allowed for this test]

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Answer all parts of this test. Write each answer in the space marked Ans. No credit will be allowed unless the answer is correct.

- a Find the cost of a 17 word telegram, if the first 10 words cost 40 cents and each additional word costs 3 cents. [1]

Ans.

- b When sugar is $7\frac{1}{2}$ cents a pound, how much is saved by buying 14 pounds for 98 cents? [1]

Ans.

- c If a car uses a gallon of gasoline every 16 miles, what will be the cost, at 25 cents a gallon, of the gasoline necessary to run the car 80 miles? [1]

Ans.

- d If a player makes 6 hits in 24 times at bat, what is his per cent of hits? [1]

Ans.

- e A gas meter shows a consumption of 2500 feet of gas in one month; find the cost at \$1.50 per thousand feet. [1]

Ans.

- f If a train runs 9 miles in 15 minutes, what is its rate per hour? [1]

Ans.

- g A certain truck is built to carry 3000 pounds; if the driver puts on an overload of 40%, what is the weight of the entire load? [1]

Ans.

- h A restaurant check shows charges as follows: soup 15 cents, beef 30 cents, pie 10 cents, coffee 5 cents; if the waiter is given a tip of 10 cents, what is the cost of the meal? [1]

Ans.

- i A landlord raises the rent of a house from \$48 a month to \$60 a month; what is the per cent of increase? [1]

Ans.

- j Separate the number 240 into parts having the ratio of 3 to 5. [1]

Ans.