

High School Department

167TH EXAMINATION

ARITHMETIC

Thursday, January 24, 1901—9.15 a. m. to 12.15 p. m., only

Answer the first five questions and five of the others but no more. If more than five of the others are answered only the first five answers will be considered. Give all operations (except mental ones) necessary to find results. Reduce each result to its simplest form and mark it Ans. Each complete answer will receive 10 credits. Papers entitled to 75 or more credits will be accepted.

1 Define *five* of the following: abstract number, fraction, multiple, square root, dividend, tax, reciprocal.

2 Simplify
$$\frac{2-\frac{1}{2}}{2\frac{3}{4}} + (2-1\frac{3}{4} + \frac{7}{10})$$

3 Find the simple interest of \$5000 at $4\frac{1}{2}\%$ from August 25, 1900 till the present date.

4 A tank is $2\frac{1}{2}$ meters long, 80 centimeters deep and 5 decimeters wide; find the capacity of the tank in liters and the weight in kilograms of the water required to fill the tank.

5 Reduce to its lowest terms $\frac{1024}{3074}$

6 A man sold 15 bushels of potatoes at 60 cents a bushel thereby gaining \$2.25; find the rate per cent of gain.

7 To what depth will 240 gallons fill a vat 11 feet long and 7 feet wide? [1 gallon=231 cubic inches.]

8 Make a receipted bill of the following: John Drew bought of Taylor & Co. January 3, 1901, 25 plank 10 feet long, 8 inches wide and $1\frac{1}{2}$ inches thick, at \$16 per M; January 17, 12 sticks of timber 28 feet long and 8 inches square at \$30 per M.

9 What is the difference between a discount of 10% and two successive discounts of 5% each on a bill of \$832?

10 George Dent gives you today a note for \$480 for 3 months without interest; write the note and find the proceeds if it is discounted today at a bank at 6%.

11 A man pays \$36 for an insurance of \$4800 which is $\frac{3}{4}$ the value of his house; find the rate of insurance and the value of his house.

12 A merchant buys through an agent 120 pounds of tea at 60 cents a pound and pays \$1.44 commission; find the rate of the agent's commission and the net cost of the tea to the merchant.

13 Find the cost of digging a cellar $48' \times 36'$ and $7\frac{1}{2}'$ deep at 30 cents a cubic yard.

14 The area of a lawn whose length is twice its breadth is 392 square yards; find the length and breadth of the lawn.

15 A man sells 540 shares of 4% stock at 80 and loans the proceeds at $5\frac{1}{2}\%$; find the difference in his income.