

High School Department

168TH EXAMINATION

ARITHMETIC

Thursday, March 28, 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 Simplify $\frac{\frac{9}{10} \div (\frac{1}{6} + \frac{3}{10} + \frac{11}{15})}{1\frac{5}{8} \times 3\frac{3}{4} - 5\frac{1}{4} \div 1\frac{2}{5}}$

2 What decimal part of 4 bushels, 1 peck, 6 quarts is $\frac{1}{3}$ of 9 bushels, 3 pecks, 7 quarts, 1 pint?

3 A tank is 6.5 meters long, 4.2 meters wide and 2.6 meters deep; how many hours will it take a pipe to fill the tank if 169 liters of water flow into the tank per minute?

4 Find the exact contents in cubic feet of a cellar wall $40' \times 32'$ outside measurement, 8' high and 18" thick, allowing for one door $8' \times 5'$ and three windows each $1\frac{1}{2}' \times 3'$.

5 Find the amount of \$734 at $3\frac{1}{2}\%$ simple interest from June 30, 1898 to the present date.

6 Define *five* of the following: decimal, common divisor, prime number, multiplicand, integer, per cent, brokerage.

7 Find the least common multiple of 765 and 1428.

8 How deep must a bin be that is $16' \times 7'$ in order to hold 420 bushels? [2150.4 cubic inches = 1 bushel.]

9 Find the proceeds of a note for \$500, payable in 90 days, without interest, if discounted at a bank at 6%, 40 days after date.

10 If 240 pounds of sugar are sold for \$19.20 at a gain of 28%, what was the cost per pound?

11 An agent's commission of $2\frac{1}{2}\%$ is \$47.85; what sum must be sent him to cover both his commission and the sum invested?

12 When 6% bonds are selling at $166\frac{1}{2}$, brokerage $\frac{1}{8}\%$, how much must be invested to secure an income of \$840?

13 A and B start from the same point, traveling in the same direction at the rate of 3 miles and 2 miles an hour respectively; if A starts 2 hours after B, how far apart are they 5 hours after A starts?

14 At 9 cents a square yard what is the cost of painting the outside surface of a hollow cylinder 8 feet long and 5 feet in diameter?

15 How much tax will a farmer pay who is assessed for 275 acres of land at \$18 an acre, and for \$2500 personal property, the tax rate being $5\frac{1}{4}$ mills on a dollar and the fee for collecting 1%?