

High School Department

157TH EXAMINATION

ARITHMETIC

Tuesday, January 24, 1899—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: *prime number, subtrahend, improper fraction, decimal, least common multiple, root, proceeds, antecedent.*

2 Simplify $(\frac{2}{3} \times \frac{3}{4} + 3\frac{1}{2}) \times \frac{1}{2} - (.75 \div \frac{1}{4})$

3 Find the least common multiple of 84, 126 and 540.

4 Find the weight in kilograms of the water which fills a tank whose interior is 380 centimeters long, $23\frac{1}{2}$ decimeters wide and .35 meters deep.

5 Find the interest on \$535 at $4\frac{1}{2}\%$ from September 9, 1898 to the present time.

6 Reduce $\frac{1}{2}$, $\frac{1}{3}$ and $\frac{1}{4}$ to decimals; from the sum of these decimals subtract .4315, and express the result as a common fraction.

7 A, B and C together have \$160; twice A's money is equal to half of B's money, and C has $\frac{1}{2}$ as much as A and B together. How much has each?

8 David Palmer borrows this day of Samuel Hill \$350, and gives his note for this amount for 4 months at 6%. Make out the promissory note in proper form.

9 A man buys 2 acres of land at \$600 an acre; he sells 15 lots, 50 feet by 100 feet each, at \$150 a lot, and the remainder of the land at 5 cents a square foot. Find his entire gain.

10 Find the cost of 5 sticks of timber, each 20 feet long and 6 inches by 9 inches, at \$16 a 1000 feet board measure.

11 Find the cost of carpeting a room 18 feet long and 12 feet wide with carpet $\frac{3}{4}$ of a yard wide at \$1.25 a yard.

12 United States 4% bonds, to the amount of \$20000 face value, are bought at $122\frac{1}{2}$ (brokerage $\frac{1}{4}\%$); find the cost of the bonds and the rate of income on the investment.

13 A base ball 'diamond' is 90 feet square; find in inches the distance between two diagonally opposite corners of the diamond.

14 The roof of a stable is 30 feet long; the distance between the eaves is 16 feet, and the height of the ridge above the eaves is 6 feet. Find the number of square feet in the roof.

15 A wagon wheel makes 336 revolutions in rolling 1 mile; find the diameter of the wheel.