

Examination Department

150TH EXAMINATION

ARITHMETIC

Tuesday, January 25, 1898—9:15 a. m. to 12:15 p. m., only

100 credits, necessary to pass, 75

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.

- 1 Define numerator, denominator, divisor, factor, proportion.
- 2 Find the weight in kilograms of a stone 1 meter square and .4 of a meter thick, assuming that the stone is $2\frac{1}{2}$ times as heavy as water.
- 3 Simplify
$$\frac{3\frac{3}{4} - \frac{2}{7} \times 4.2}{\frac{5}{18} \div \frac{2}{7}}$$
- 4 Find the interest on \$375 at $4\frac{1}{2}\%$ from July 1, 1896 to the present time.
- 5 Multiply 65.15 by 3.14159 and divide the result by 57.296, finding a result correct to three decimal places.
- 6 Find the cost at \$50 an acre of a rectangular field 1650 feet long and 825 feet wide.
- 7 Find the time required to fill a cistern 8 feet square and 5 feet deep by a pipe which admits water at the rate of 1 quart a second.
- 8 Make a receipted bill of the following: J. L. Robbins & Co. sold this day to Samuel Jones 8 yards cloth at $37\frac{1}{2}$ cents, 24 yards calico at $8\frac{1}{3}$ cents, 1 dozen handkerchiefs at $12\frac{1}{2}$ cents and 3 dozen towels at \$2.50 a dozen.
- 9 Find the cost of four sticks of timber, each 8 inches by 10 inches and 30 feet long, at \$15 a 1000 feet board measure.
- 10 Find the least common multiple of 153, 204 and 510.
- 11 If 4% bonds to the amount of \$8000 face value are bought at $92\frac{1}{2}$, find the cost of the bonds and the rate of income on the investment.
- 12 If 3 men can do a piece of work in 8 days of 10 hours each, how many men will be required to do the same work in 6 days of 8 hours each? (Solve by proportion.)
- 13 By selling a horse for \$144 a profit of 60 per cent is made; find the cost of the horse.
- 14 The diameter of a bicycle wheel is 28 inches; find the number of revolutions it makes in going 1 mile.
- 15 Find the square root of 7 correct to three decimal places.