## ARITHMETIC

**Friday,** March 30, 1900—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 $\frac{1}{3}(14\frac{3}{4} \div \frac{11}{12}) - (6\frac{1}{2} \times \frac{14}{15}) \times .0625$

2 Find the cost of paving a walk 140 centimeters wide and $\frac{1}{4}$ kilometers long at $1.25 a square meter.

3 What is the value, at $5 a cord, of a pile of wood 4 feet wide, 10 feet high and 20 yards long?

4 Make a receipted bill of the following: William Stone buys this day of Flagg Brothers 2 barrels flour at $5.50, 20 lbs. sugar at $5\frac{1}{4}$ cents, 4 lbs. coffee at 35 cents, 5 lbs. butter at 28 cents, 2 bushels potatoes at 45 cents.

5 A note for $350, at 5¢ simple interest, was given Nov. 23, 1898; find the amount of this note today.

6 A, B and C together have $250; B has $\frac{3}{4}$ as much as A, and C has $\frac{1}{3}$ as much as A and B together. How much has each?

7 The interior of a rectangular tank is $2\frac{1}{4}$ feet by 3 feet by 5 feet; in how many minutes will this tank be filled by a pipe that admits 18 quarts of water a minute? [1 gallon = 231 cubic inches.]

8 A merchant sold a case of goods which cost $14.40 at 10¢ below the marked price, thus gaining 25¢ on the cost; find the marked price.

9 Find in ounces the weight of 20 silver dollars. [Weight of 1 silver dollar = 412.5 grains.]

10 Find the square root of 6,115,729.

11 A man pays $75 for insuring his house for $\frac{3}{4}$ its value at $1\frac{1}{4}$¢; find the value of the house.

12 A capitalist buys U. S. 4¢ bonds to the amount of $50,000 par value at $112\frac{3}{4}$, brokerage $\frac{1}{8}$¢; find the cost of the bonds and the rate of income on the investment.

13 On a note for $400, at 6¢, dated Jan. 12, 1899, the following payments have been made: May 22, 1899, $200; Oct. 2, 1899, $150. Find the amount due today.

14 A yardstick perpendicular to a level floor casts a shadow 18 inches long; find the hight of a flagstaff which at the same time casts a shadow 70 feet long.

15 Find in kilograms the weight of the water that fills a cylindric tank 1 meter high and 60 centimeters in diameter.