

## ARITHMETIC

Thursday, September 29, 1904—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  $\frac{(\frac{1}{4} - \frac{1}{8}) \div (\frac{1}{8} \times 2\frac{3}{4})}{6\frac{3}{8} - \frac{1}{8} \times \frac{1}{4}}$

2 A woodpile containing 13.86 steres (cubic meters) is 5.5 meters long and 1.8 meters wide; find the height of the pile.

3 Find the cost, @ 18¢ a square yard, of painting the walls and ceiling of a room 16'x14' and 10½' high. [No allowances.]

4 Find the amount of \$742, at 3½% simple interest, from December 30, 1901 till today.

5 An agent sold 325 bushels of wheat @ 60¢ a bushel, charging a commission of 5%; find the proceeds of the sale.

6 Subtract  $\frac{1}{3}\frac{1}{8}$  from  $\frac{1}{4}\frac{5}{8}$

7 A picket fence incloses a rectangular field 42'x30'; the pickets are 2½' wide and 1½' apart. Find the cost of the pickets @ \$3.25 a hundred.

8 Find in cubic feet the capacity of a cistern that will hold 54 barrels of water. [231 cubic inches=1 gallon.]

9 A piece of cloth of 48 yards was bought @ 80¢ a yard; the cloth in shrinking lost 1½% of its length. At what price a yard must the cloth be sold to gain 40% on the whole transaction?

10 Find the net amount of a bill for \$880 subject to discounts of 2½, 5 and 10.

11 Find the face of a 60 day note discounted at a bank at 6%, 13 days after date, if the proceeds of the note are \$734.70.

12 A circular park contains 78.54 hectares (square hectometers); find the distance from the center of the park to its circumference.

13 Find the number of shares of stock that can be bought for \$5160.75 at 122½, brokerage ¼%.

14 Find the fourth term of  $6\frac{2}{3} : 3\frac{1}{3} :: 1\frac{2}{3}$ :

15 The assessed valuation of the property of a village is \$1,872,500; the tax levied is \$14,043.75. Find the rate of tax on \$1000.