High School Department

171ST EXAMINATION

ARITHMETIC

Thursday, September 26, 1901 — 9.15 a. m. to 12.15 p. m., only

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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 $\dfrac{(\frac{3}{7}\times 2\frac{1}{3})\div(\frac{3}{8}\times 7\frac{1}{2})+\frac{3}{4}\times\frac{8}{9}}{\frac{1}{2}\text{ of }(\frac{3}{4}-\frac{9}{16})\times(1-\frac{5}{9})}$

2 Multiply three and fifteen tens of thousandths by one and one hundredth, and divide the product by four and five hundredths. Express the result in words.

3 A train travels 495 kilometers in 9 hours at a uniform rate of speed; how many meters a minute does it travel?

4 Find the interest of $810 from October 28, 1898 till today at $3\frac{1}{2}\%$.

5 A merchant bought 351 bushels of wheat for $234; he sold half of the wheat at a gain of 15% and the rest at cost. Find the average gain on one bushel.

6 Find the greatest common divisor and the least common multiple of 714 and 935.

7 Find the cost, at 65 cents a cubic yard, of excavating a cellar 15 feet square and 9 feet deep.

8 A merchant asks for successive discounts of 15% and 5% on a bill of $850, but he is offered instead discounts of 10% and 10%; find the difference between the two net amounts.

9 The walls and ceiling of a room 16 feet by 14 feet contain 944 square feet; how high is the room?

10 A tax of $6750 is levied on a certain village whose assessed valuation is $4,500,000; what is the tax on a house assessed at $8500?

11 Find the cost, at $62\frac{1}{2}$ cents a square yard, of paving a circular court 42 feet in diameter.

12 An agent sells a piano and after deducting his commission of $5\frac{1}{2}\%$, sends his principal $472.50; find the agent's commission.

13 Find the face of a note for 90 days the proceeds of which are $824 when it is discounted at a bank at 7%.

14 A man gave away $\frac{1}{6}$ of the books in his library, lent $\frac{1}{4}$ of the remainder and sold $\frac{1}{3}$ of those left; he then had in his possession 360 books. How many books had he at first?

15 How much must a man invest in 4% bonds at $112\frac{7}{8}$, brokerage $\frac{1}{8}\%$, so that his annual income may be $1620?