University of the State of New York

High School Department

175TH EXAMINATION

ARITHMETIC

Thursday, September 25, 1902—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: abstract number, decimal, factor, metric system, percentage, proportion, par value.

2 Simplify $\dfrac{1\frac{2}{3}\times(2\frac{1}{2}+\frac{2}{3}-1\frac{1}{3}\div\frac{5}{6})}{(5+8\frac{1}{2}\times1\frac{1}{3})\div\frac{7}{9}}$

3 Find the simple interest of \$432 at $3\frac{1}{2}\%$ from November 30, 1900 to the present date.

4 A dealer bought 12 dozen bananas for $1\frac{1}{4}$¢ a piece and sold them for 18¢ a dozen; find his per cent of gain and his whole gain.

5 To what depth will 384 dekaliters of water fill a rectangular tank 3 meters 2 decimeters long and 1 meter 5 decimeters wide?

6 Find the greatest common divisor of 2470 and 3857.

7 Find the cost, @ 60¢ a cubic yard, of digging a cellar 7 feet deep, 36 feet long and 24 feet wide.

8 There are 14 feet of water in a well 3 feet in diameter; how many gallons of water are there in the well? [1 gallon = 231 cubic inches.]

9 A floor is 8 feet wide and the distance between two diagonally opposite corners is 17 feet; find the cost, @ 9¢ a square yard, of painting the floor.

10 An agent retaining a commission of \$48.79, sent his principal \$1345.21 as the proceeds of a sale of tea @ 85¢ a pound; find the number of pounds of tea sold by the agent.

11 If the brokerage is $\frac{1}{4}\%$, find the annual income derived from the investment of \$15,428 in $5\frac{1}{4}\%$ stock at $137\frac{1}{8}$.

12 The proceeds of a three months note discounted at a bank at 6% are \$728.90; find the face of the note.

13 A tax of \$7207.32 is to be raised in a town whose taxable property is assessed at \$565,280; find the rate of taxation and the tax on property assessed at \$7200.

14 Find the net amount of a bill for \$729 subject to successive discounts of $8\frac{1}{2}\%$ and 4% for cash.

15 Find the ratio of £1 8s 2d 3 far. to £35 5s 8d 3 far.