University of the State of New York

High School Department

178TH EXAMINATION

ARITHMETIC

Thursday, June 18, 1903 — 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 $\dfrac{\frac{2}{3}+1\frac{3}{4}\div2\frac{11}{12}-1\frac{1}{15}}{\frac{8}{9}-\frac{7}{8}\times\frac{7}{9}}\div8$

2 Find the simple interest of $542.60 at 4% from August 27, 1902 to the present date.

3 A man bought 580 bushels of grain @ 75¢ a bushel and sold the whole amount for $513.30; find his per cent of gain.

4 One edge of a cubic block of marble is 8 decimeters 2 centimeters long; marble is 2.7 times as heavy as water. Find the weight in kilograms of the block.

5 What income will a man receive from an investment of $20,171.25 in 5% stock at 122¼, brokerage ⅛%?

6 Find the greatest common divisor and the least common multiple of 252, 180 and 756.

7 Find the cost, @ $1.17 a yard, of carpeting a room 18' 8" × 15' 9", with carpet 27" wide, if the strips of carpet run lengthwise.

8 A wall 20' long, 6' high and 12" thick is built of brick; there are 22 common bricks in a cubic foot of masonry. Find the cost of the bricks @ $11 per M.

9 Find how many gallons of oil a cylindric cask will hold that is 18" high and 11" in diameter. [1 gallon = 231 cubic inches.]

10 What is the ratio of 56 A. 64 sq rds 14 sq yds to 75 A. 32 sq rds 18 sq yds 6 sq ft?

11 Write a negotiable promissory note, without interest, for $156.50, dated today and payable in 60 days at the First National Bank; make J. Towne the payee and yourself the maker of the note.

12 If the note mentioned in question 11 is discounted July 1 at 6%, what will be the proceeds of the note?

13 Find the cost, @ 12¢ a square yard, of painting a stage in the form of a trapezoid whose parallel sides, 25' apart, are respectively 28' and 22'.

14 Find the net proceeds of the sale, through a commission merchant, of 455 barrels of apples @ $1.25 a barrel, the rate of commission being 4% and other charges being 14¢ a barrel.

15 On property whose valuation is $500,000, a tax is laid to pay for a public building costing $8136 and the collector's fee of $164; what is the rate of taxation?