

University of the State of New York

## Examinations Department

115th examination

### ARITHMETIC

Wednesday, August 16, 1893—2 to 5 p. m., only

100 credits, necessary to pass, 75

Answer questions 1-5 and any 5 of the other questions but no more. If more than 5 of these questions are answered only the first 5 of these answers will be considered. Each complete answer will receive 10 credits.

NOTE—Give all operations (except mental ones) necessary to find results. Reduce each result to its simplest form and mark it *Ans.*

1 Simplify  $\frac{1}{3}$  of  $\frac{3\frac{1}{7}}{4}$  of  $2\frac{1}{3} \times 14$ .

2 Reduce  $\frac{19}{3040}$  and  $\frac{3}{8}$  to decimals and divide the first decimal by the second.

3 What part of a bushel is contained in a rectangular box 3 inches deep and 4 inches square? (A bushel = 2150.4 cubic inches.)

4 Find the proceeds of a three month note, dated August 1, 1893, for \$131.38, discounted at an Albany bank September 15, 1893.

5 Find the weight, in kilograms, of a silver bar, 30 centimeters long, 5 centimeters wide and  $1\frac{1}{2}$  centimeters thick, the silver being 10.5 times as heavy as water.

6 A quantity is increased by  $\frac{3}{8}$  of itself. The quantity thus obtained is decreased by  $\frac{1}{4}$  of itself. What part of the original quantity is the second result?

7 Find the cost, at \$7 per 100 square feet, of slating a trapezoid of which the parallel sides are 64 feet and 32 feet and the perpendicular distance between them is 20 feet.

8 Find to the nearest cent the value of a pint of liquid worth \$5 per liter. (1 liter equals 1.0567 quarts.)

9 What will it cost, with carpet  $\frac{3}{4}$  of a yard wide, at \$1 per linear yard, to carpet a room 18 feet square?

10 How much must be paid to satisfy a claim of \$75, on which a discount of 25 per cent and a further discount of 10 per cent from the remainder is allowed?

11 How much per cent is a quantity increased if it is doubled and then increased by  $\frac{1}{2}$  of the resulting quantity?

12 How much is due August 15, 1893, on an interest bearing promissory note for \$250, dated Buffalo, June 1, 1886, on which \$50 was paid December 24, 1886, and \$10 January 5, 1888?

13 What is the diameter of a circle whose area is  $\frac{1}{2}$  that of a circle 5 inches in diameter?

14 If 100 suits can be made from 800 yards of cloth  $\frac{7}{8}$  yards wide, how many suits can be made from 1200 yards of cloth  $\frac{3}{4}$  yards wide?

15 Define *multiple*, *cancelation*, *true discount*, *ratio*, *exponent*.