

University of the State of New York
Examination Department

125th examination

ARITHMETIC

Tuesday, September 25, 1894—9 : 15 a. m. to 12 : 15 p. m., only

100 credits, necessary to pass, 75

Answer the first five questions and five of the others but no more. If more than five of these questions are answered only the first five of these 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.

1 Define and illustrate *improper fractions, complex fractions, prime factor, divisor, multiple.*

2 A certain room is 6 meters, 4 decimeters long, 4 meters, 8 decimeters wide and $3\frac{1}{2}$ meters high; find the cost of plastering its four walls and ceiling at 30 cents a square meter. Make no allowance for openings.

3 Simplify the following: $\frac{3\frac{1}{5} + 2\frac{2}{3}}{\frac{1}{2} \times \frac{4}{9} - \frac{1}{5}}$

4 Find the sum of the following and express the result in words: 2370.12, 59.63, 482.71, 10042.63, 6259.001, 1.0003, 52746, 358712.

5 A note for \$624 is dated August 26, 1893; July 15, 1894 there was paid on it \$62.50; find the amount now due.

6 I buy goods at a discount of 25 % from the list price and sell at the list price; find the per cent gain.

7 Property valued at \$12000 is insured for $\frac{2}{3}$ its value at the rate of $\frac{1}{4}$ % a year; find the premium.

8 I buy 15 shares of stock at 95 and sell the same at 98, paying $\frac{1}{4}$ % brokerage in each case; find my net gain.

9 How many brick 8" x 4" x 2" will be required for a wall $37\frac{1}{2}$ ft long, 18 ft high and 1 ft thick, allowing 20 % of the wall for mortar?

10 If 3 men can do a certain piece of work in $4\frac{2}{3}$ days, how long will it take 5 men to do the same work? (Solve by proportion.)

11 A piece of land in the form of a square contains four acres; find the length of one of its sides.

12 A note for \$500 at 90 days with interest at 6 % is discounted at a bank 30 days after it is dated; find the proceeds.

13 A man has $\frac{1}{2}$ his property invested in land, $\frac{1}{10}$ in stock, $\frac{1}{10}$ in utensils and the remainder, which is \$3500, in the bank; how much property has he in all?

14 A collecting agent whose commission is 2 % remits to his employer \$2808.19; what amount did he collect?

15 State and illustrate two methods of proving simple multiplication.