

University of the State of New York  
Examination Department  
138TH EXAMINATION  
ARITHMETIC

Tuesday, June 16, 1896—9:15 a. m. to 12:15 p. m., only

100 credits, necessary to pass, 75

Answer questions 1-5 and five of the others but no more. If more than five of these other 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 *division*, *quotient*, *denominate number*, *improper fraction*, *square root*.

2 How much railway iron weighing 48 kilograms to the meter will be required for a double-track railway 150 kilometers in length?

3 Find the amount of \$1500 at  $4\frac{1}{2}\%$  simple interest from January 21, 1896, to the present time.

4 Write out in full the analysis of the following: If  $\frac{1}{2}$  of an article costs  $\frac{3}{4}$  of a dollar how much will  $\frac{8}{14}$  of it cost?

5 The proceeds of a note discounted at a bank for 90 days at 6% are \$500; find the face of the note.

6 Make a receipted bill of the following: Jan. 14, 1896, Robert Morris sold James Dow 1 bbl. flour, \$4.50; Jan. 25, 15 lbs. sugar at 6 c., 5 gallons kerosene at 12 c.; Feb. 12, 3 lbs. coffee at 38 c., 1 lb. tea, 75 c. Paid in full June 16, 1896.

7 By selling stock at 84 there is a gain of 5% on the investment; at what price was the stock purchased?

8 A can do a piece of work in 4 days, B can do the same piece of work in 6 days and C can do it in 12 days; how many days will it take all three working together to do the work?

9 Find the contents in bushels of a bin 8 feet long, 4 feet wide, 6 feet deep.

10 A certain walk is 100 feet long and 5 feet wide; the walk is of 2-inch hemlock plank, laid crosswise on three stringers, each of which is 2 inches by 4 inches. Find the amount of lumber in the walk and its cost at \$15 per 1000 feet.

11 Find the cost of 8246 lbs. of coal at \$5.50 a ton of 2000 lbs.

12 If 3 men can do a certain piece of work in 6 days of 10 hours each, in how many days of 8 hours each will 5 men do the same work? (Solve by proportion.)

13 Find the square root of 48.23 correct to two places of decimals.

14 Simplify  $\frac{\frac{1}{2} + 2\frac{1}{4}}{\frac{1}{3} \times \frac{1}{4}} - \frac{\frac{3}{4} \times \frac{1}{2}}{4\frac{1}{2} + 1\frac{1}{4}}$

15 Perform the operations indicated in the following and express the result in words:  $\frac{224.6298 \times .027}{476}$