University of the State of New York
Examination Department
141st EXAMINATION
ARITHMETIC

Tuesday, September 22, 1896 — 9:15 a. m. to 12:15 p. m., only

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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 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 *multiplication, involution, square root, complex fraction, decimal.*

2 Multiply 42364 by 27986 and divide the product by 55972. (Write out the work in full.)

3 Simplify the following: $\dfrac{3\frac{1}{2}+2\frac{1}{4}}{2\frac{1}{3}-1\frac{1}{6}} \times \dfrac{7}{8} \div \dfrac{3\frac{1}{5}}{2\frac{1}{3}}$

4 A copper wire weighs 75 grams to the meter in length; find the weight in kilograms of 26 kilometers of such wire.

5 Find the amount at 6% simple interest of a note for $350 dated Jan. 2, 1896 and paid to-day.

6 In the same time A can earn twice as much as B. On a certain job A works 3 days and B 4 days. They together earn $17.50; what is the share of each?

7 Convert each of the following into a fraction whose denominator shall be 20: $\frac{4}{5}$, $\frac{5}{7}$, $1\frac{1}{4}$, 6, .75

8 Find the cost at $16 per thousand feet board measure of 20 scantlings 3″ by 4″ and 16 feet long.

9 Make a receipted bill of the following:
Bought of Dye & Co. for cash: 3 lbs. tea at 45 c., 20 lbs. sugar at 5 c., 2 lbs. coffee at 50 c., 10 yds. muslin at 7 c.

10 For excavating a cellar 30 feet by 24 feet, 6 feet deep I agree to pay 30 cents a cubic yard for earth and $1.25 a yard for rock. The earth is found to be 4 feet deep; what does the work cost?

11 Find in square yards the entire inner surface of a room 18 feet by 12 feet by 9 feet.

12 I buy apples at $2 a barrel and lose 20% of them; at what price per barrel must I sell the remainder to gain 10% on the transaction?

13 At what price must I buy stock that pays annual dividends of 8% in order to realize 4½% on my investment?

14 The amount of pure silver in a silver dollar is 371.25 grains. When silver is worth 66 cents an ounce, what is the value as bullion of the silver which it contains?

15 Find the square root of 247.36, correct to 3 decimal places