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University of the State of New York

Examination   Department

122d examination

ARITHMETIC

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

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<center>100 *credits, necessary to pass,* 75</center>

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 *denominate number, composite number, prime number, denominator, decimal.*

2 Multiply two thousand nine ten-millionths by thirty thousand two and seven tenths, and divide the product by three ten-thousandths.

3 Reduce $\dfrac{4\frac{3}{8}-1\frac{3}{4}}{4\frac{2}{7}\times5\frac{3}{5}}$ to a simple fraction in its lowest terms.

4 What is the amount of $897.25 at 6% simple interest from September 19, 1891 to March 13, 1894?

5 How many hectoliters of grain will a bin contain which is 3 meters long, 125 centimeters wide and 18 decimeters deep?

6 A bookseller buys a book whose catalog price is $3.50 at a discount of 20% and 5%, and sells it at 10% above the catalog price. What per cent profit does he make?

7 An agent remits to me $247.38 after retaining a commission of 5% for collection. What sum did he collect? What was the amount of his commission?

8 If brick when laid average 6.5 centimeters in thickness, how many courses would there be in a wall 26 meters high?

9 What per cent would I receive on my investment if I should buy at 10% discount stock which pays an annual dividend of $4\frac{1}{2}$%?

10 Find the cost of papering the walls of a hall 36 feet long, 24 feet wide and 18 feet high, with paper $1\frac{1}{2}$ feet wide at $2.50 a roll of 16 yards, allowing 64 square yards for doors and windows.

11 Three men, A, B and C, engage in partnership; A puts in $1200, B $1500, and C $1900. They gain $350; what is the share of each in the profits?

12 A 30 day note discounted at a New York bank yields $358.02; what was the face of the note?

13 The owner of $\frac{3}{11}$ of a mine sold $\frac{9}{10}$ of his share for $40,500. What should he who owns $\frac{2}{5}$ of he mine get for $\frac{5}{8}$ of his share?

14 If a square field contains 10 acres, what is the length of the diagonal?

15 If 18 men can dig 128 yards of ditch in 32 days, how many yards can 12 men dig in 64 days?