University of the State of New York

Examinations Department

80th examination

ARITHMETIC

Tuesday, March 15, 1892-9:15 a.m. to 12:15 p.m., only

60 credits, necessary to pass, 45

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

- Define prime number, simple number, factor, ratio, decimal fraction, common divisor.
 Find the prime factors of 120, 210 and 1155, and then indicate
- 2. Find the prime factors of 120, 210 and 1155, and then indicate by signs what factors of these numbers must be combined to produce their greatest common divisor, and what ones to produce their least common multiple.
- 3. Simplify $\frac{\frac{3}{5} \times 1.25}{5\frac{3}{4} 4.25}$ and express the result both as a common and as a decimal fraction.
- 4. Find the cost of 1478 lbs. of coal at \$4.60 per ton.
- 5. Find the cost of carpeting a room 18 ft. \times 21 ft. with carpet that is $\frac{3}{2}$ of a yard wide, at 75 c. a yard.
- 6. I invest \$22080 in railway stock at 4% discount. If the stock pays 4% dividends semi-annually, what will be my income and what rate will it be on the investment?
- 7. If 7 bushels of wheat cost \$6.30, what will 11 bushels cost? (Solve by proportion.)
- 8. A bank note for \$150 at 90 days is discounted at a bank on the day when it is made; find the proceeds.
- 9. I buy oranges at 15 c. per dozen and retail them at the rate of 3 for 5 c. What per cent profit do I make?
- 10. Find the amount of \$485 at 5½% simple interest from July 10, 1891, to the present date.
- 11. Find the true discount and the present worth of \$412, due in six months without interest.
- 12. Find the cost of a tract of land $\frac{1}{2}$ a mile long and $\frac{1}{8}$ of a mile wide at \$50 per acre.
- 13. The two sides of a right triangle are 42 ft. and 21 ft.; find the hypotenuse to two places of decimals.
- 14. Write the prefixes used in forming the tables of weights and measures in the metric system, and give the meaning of each.