High School Department

159TH EXAMINATION

ARITHMETIC

Tuesday, June 13, 1899 — 9.15 a. m. to 12.15 p. m., only

Answer the first five questions and five of the others but no more. If more than five of the others are answered only the first five 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. Papers entitled to 75 or more credits will be accepted.

1 Simplify $\left\{\left(\frac{24}{21} \times 2\frac{1}{4}\right) + \left(\frac{51}{4} \div 4\frac{18}{19}\right)\right\} \div 6.3$

2 If rain falls to a depth of 15 millimeters on a level, how many kilograms of water fall on a square kilometer of ground?

3 A sum of money at 4½% simple interest amounted in 1 year, 7 months and 18 days to $375.725; find the principal.

4 Reduce to its lowest terms $\frac{3444}{4141}$

5 A, B and C together have $200; twice B's money is equal to three times C's money, and B and C together have ⅝ as much as A. How much has each?

6 Define *five* of the following: *concrete number, proportion, minuend, power, involution, reciprocal, multiple, consequent.*

7 Find in rods to *two* decimal places the length of one side of a square field whose area is 3 acres.

8 The proceeds of a note, due in 4 months and discounted at a bank at 6%, are $450.80; what is the face value of the note?

9 The water that fills a cylindric tank whose diameter is 1.4 meters weighs 4620 kilograms; find the depth of the tank.

10 Find the cost of plastering the walls and ceiling of a room 14 feet by 10 feet and 9 feet high at 35 cents a square yard, allowing 8 square yards for openings.

11 Find the cost of digging a cellar 60 feet by 30 feet and 8 feet deep if the excavating costs 50 cents a cubic yard.

12 Find in bushels the capacity of a bin 8 feet long, 5 feet deep and 4 feet wide. (Bushel = 2150.42 cubic inches.)

13 A rectangular plot 120 feet long and 50 feet wide is surrounded by a walk 4 feet wide; find the cost of paving this walk at 30 cents a square yard.

14 Find the rate of income on 4% bonds bought at 115.

15 On a note for $700, dated Oct. 15, 1898, due in one year, with interest at 5%, the following payments have been made: Mar. 9, 1899, $300; June 1, 1899, $250. Find the amount due at maturity.