Examination Department

148TH EXAMINATION

ARITHMETIC

Tuesday, September 28, 1897—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 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.*

1 Define *notation, minuend, greatest common divisor, ratio, root.*

2 Simplify $\dfrac{26.7 - 11.80 + 6.45}{\frac{3}{4} \times 3\frac{1}{4} \times .72}$

3 Find the greatest common divisor of 7857, 4536, 5832.

4 Find the contents in liters of a bin 4.3 meters long, 33$\frac{1}{2}$ decimeters wide and 281 centimeters deep.

5 Find the amount of $1357.63 at 5$\frac{1}{2}$% simple interest from June 1, 1897 to the present time.

6 Find the cost of the following bill of lumber:

    7 pieces 12' x 10" x 2" at $16.50 a 1000 feet
    12 pieces 16' x 6" x 4" at 17.00 a 1000 feet
    22 pieces 18' x 12" x 1" at 20.75 a 1000 feet.

7 Make a receipted bill of the following transaction: On May 1, 1897 William Phelps bought of John Smith the following books: 25 algebras at 70 cents, 20 arithmetics at $1.12, 18 readers at 95 cents, 2 dictionaries at $3.75.

8 Bought 18970 lbs. of hay at $9 a ton, and 12580 lbs. of straw at $7 a ton; sold the hay at 75 cents a hundred pounds and the straw at 60 cents a hundred pounds; find the entire gain.

9 How many rings, each weighing 6 pwt. 10 gr., can be made from 4 oz. 16 pwt. 6 gr. of gold?

10 By selling a horse at 4$\frac{3}{8}$% profit a gain of $21 is made; find the cost and the selling price.

11 Find the annual income yielded by an investment of $16405 in U. S. 4's at 109$\frac{3}{8}$.

12 A school-house costing $9500 is to be built in a district whose property is valued at $1,920,000; find (*a*) the rate of taxation, (*b*) the amount of tax to be paid by a man whose property is valued at $6500. (No allowance for collection.)

13 Find the number of square yards in the entire surface of the four walls and ceiling of a room 18 feet 6 inches long, 12 feet 4 inches wide and 9 feet high.

14 The capacity of a cylindric vessel 18 inches high is 2 cubic feet; find the diameter of the vessel.

15 How many rods of fence will be required to inclose a square field containing 2 acres?