#### MATHEMATICS.

#### 9 to 11 a. m., Friday, 28th June, 1912.

1. Divide 123456789012 by 987654321. (Answer of no value if not *exactly* correct.)

2. A boy had 40 plums. He gave  $\frac{2}{5}$  of them to his brother and  $\frac{3}{8}$  of the remainder to his sister. How many had he left?

3. A meter is 39.37 inches. How many meters are there in 10 feet?

4. When 15 acres produce 1800 bu., 3 pk., 1 gal., 3 qt., what is the average yield per acre?

5. A web of cloth is marked at \$1.10 per yard, which is 25% above cost. What will be the profit on the sale of  $20\frac{3}{7}$  yards at \$1.05 per yard?

6. In a school section the taxable property is \$75,600. The sum to be levied upon it is \$375. What will be the tax on a property valued at \$2,000?

7. Find the simple interest on \$400 at 5% per annum, from September  $11^{th}$ , to December 25th.

8. B promises to pay A \$300 at 90 days. Ten days later the note is discounted in a bank at 6%. Who will discount the note? Why? How much money will be received from the bank?

9. (a) How many board feet in a squared log 42 feet long, 10 inches wide and 9 inches thick?

(b) Find the area of the ceiling and walls of a room 20 feet long, 16 feet broad and 12 feet 6 inches high.

10. (a) Find the cubic feet of excavation in a cylindrical well 20 feet deep and 4 feet in diameter, from the formula  $V = \pi \left(\frac{d}{2}\right)^2 h$ 

(V = volume in cubic feet,  $\pi = 3.1416$ , d = diameter, and h = hight of well.

(b) Simplify: 
$$\frac{(a+b)(a^2-ab+b^2)(a^3-b^3)}{a^3-b^3}$$

 $(a^2-b^2)$ or, show by an example, how to solve a simple equation, explaining briefly each operation.

## GENERAL KNOWLEDGE.

## (Ten questions only.)

# 2.00 to 3.30 p. m., Friday, 28th June, 1912.

(A certificate for a full course in *Mechanic* or *Domestic* science for a *year*, may count as three questions; but 30 points can be given only for the highest possible excellence in the course, 15 being the value of a merely passable course. In other words, the certificate of any such course shall be valued from 0 to 30, according to the evident excellence of the candidate's training. Candidates receiving values for such certificate. If they answer more than *seven* questions below on the should get credit for the *seven* highest values.)

1. Indicate with drawings any work which you learned to do with tools; or, household work, such as sewing, cooking, etc. Describe the circumstances, whether at home or in school, under which you learned to do such work; or, present a certificate of a full course as indicated in the paragraph above.