

4. Find, to four decimal places, the square root of 1074.9.
5. The diameter of a sphere is 50 inches. How many cubic yards are there in it?
6. A dining hall is 10.6 metres long, 9.8 metres wide and 4.9 metres high. What would be the cost of papering it with paper .5 metre wide, 6 metres in a roll, and costing 35c. per roll.
7. Find the specific gravity of a rock which contains 600 cubic centimeters, and weighs 1590 grams.
8. The length of a piece of road is 2000 yards, and its width is 25 feet. How many blocks 8 in. by 5 in. will pave it?
9. If  $b=6$ ,  $x=9$ ,  $y=4$ , find the value of:
 
$$\sqrt[3]{(bxy)} - \frac{1}{3}b^2 + \frac{8x^2}{b^2y}.$$
10. Divide  $a^9 - b^9$  by  $a^3 - b^3$  and multiply the result by  $a^2 - b^2$ .

### GENERAL KNOWLEDGE—VIII.

2.00 TO 3.30 P. M., THURSDAY, 30TH JUNE, 1910.

(A certificate for a full course in *Mechanic* or *Domestic science* for a year, may count as three questions; but 30 points only can be given 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 certificates, can receive no value for the answering of questions below on the subject of such certificate. If they answer more than seven questions below, they 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.
2. What plants do you know in the Rose family; Show the thoroughness of your knowledge of any one of them by drawing and description of its parts.
3. Give, in a column, a list of the weeds you know, with at least one distinctive character or property of each, such as the color, form, or peculiarity, of any part, or posit the name.
4. Show what you know about any three in the following list; Granite, Gypsum, potato beetle, a moth or butterfly, a bee, a mosquito, a robin, a sparrow, a squirrel, a beech tree, an apple tree, a strawberry, a blackberry, clouds, frost on the window-pane, a brook, a spring.
5. Write out the music (in any notation) of some song. Give a list of the songs you can sing.
6. Compare the advantages of your school physical exercises with those of games.
7. Give examples of good and bad manners, and point out the advantages of one as compared with the other.
8. Show what you know of any of the following:—Vaccination, the evils of spitting, care of the teeth.
9. Why should we protect our native birds? or, Why should we take care of our forests? or, Why should we prevent cruelty to animals?
10. What bad habits should one be most careful not to form, and why do you select those habits?