



# Provincial Department of Education Northern Province



**Monthly Examination**

**Time: 1 hour 15 minutes**

**Grade - 10**

**Maths**

**July 2022**

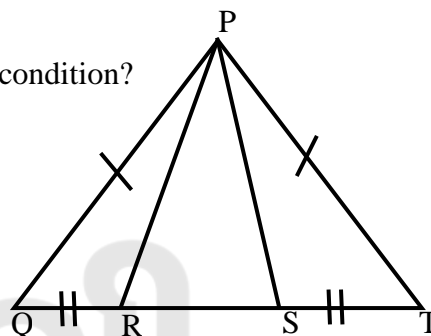
Answer the all questions

1. Which two consecutive square number lies  $\sqrt{20}$

2. Fill in the blank

$$(x + \dots)^2 = x^2 + 6x + \dots$$

3. If these  $\triangle PQR, \triangle PTS$  are congruent. What is the other condition?



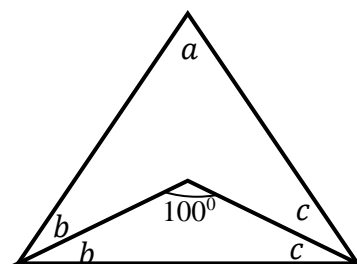
4. Find the value of 2000 l of  $\frac{3}{4}$

5. If  $x^2 + x - 6 = (x + a)(x + b)$  Find the suitable values of  $a, b$ .

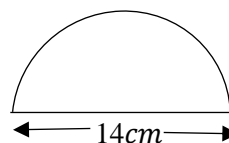
6. Find the values of followings

$$b + c = \dots$$

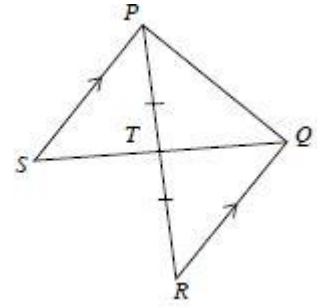
$$a = \dots$$



7. What is the perimeter of given semicircular ?

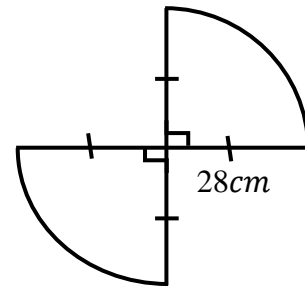


8. Write a pair of congruent triangles from the given diagram and mention the case of congruency.

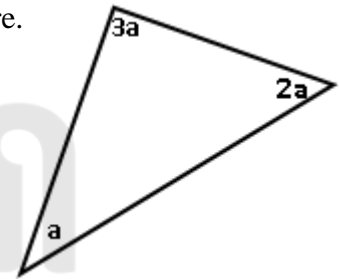


9. Write as  $102^2$  of the binomial expression and find the value.

10. Find the area of given sector.



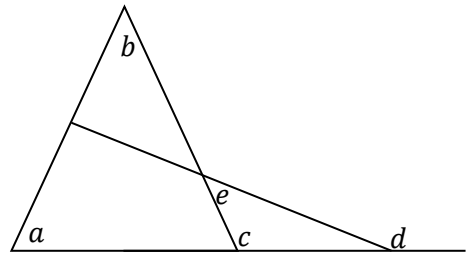
11. Find the value of  $x$  according to the information given in the figure.



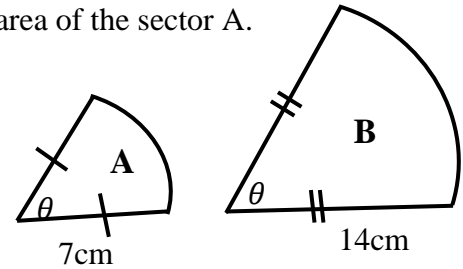
12. Factorize.  $3x^2 - 2x - 5$

13. If  $a + b = 7$ ,  $ab = 12$  Find the value of  $a^2 + b^2$ .

14. Find the value of  $e$  in terms of  $a, b, d$  using the given diagram.



15. How many times the area of sector B in terms of the area of the sector A.



(15x4=60 Marks)

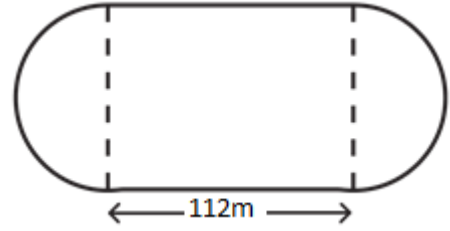
## Part II

01) A person spends  $\frac{1}{3}$  of his monthly income for food,  $\frac{1}{4}$  of the remaining for his education.

- i. Find the remaining income after he spent to food.
- ii. What fraction of total income spent for education?
- iii. He had deposited his rest of income in the account of his three children. What fraction of total income was deposit to a child?
- iv. Find the total income, if the amount that he deposited in the child's account is Rs 30000.

02) The perimeter of the inner running track given in the figure of the playground is 400m.

i. Find the arc length of running track?



ii. Find the diameter of semicircular part.

iii. If 7m wide running lane is paved outside the inner lane around the track, find the length of newly paved Traci?

iv. Find the area of grass land, if grass is grown inside the ground?

(2x20=40Marks)

May

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