JAYASUNADARA MATHS SCHOOL

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மேல் மாகாணகல்விதிணைக்களம்
Western Provincial Education Department

දෙවන වාර ඇගයීම - 2018
இரண்டாம் வதுதவணைமதிப்பீடு - **2018**
Second Term Evaluation - 2018

10ශ්‍රේණිය தரம் 10 Grade 10	ගණිතය 1 පත්‍රය கணிதவினாதாள் - 1 Mathematics Paper - I	පැය දෙකයි இரண்டுமணிநேரம் *Two Hours*

Name/ Index No ---

Signature of Invigilator

Important:

- This paper consists of 8 pages
- Write your **index no** correctly in the appropriate place on the **page one** and **page three.**
- Answer all questions **on this paper itself.**
- Use the space provided under each question for working and writing the answer.
- It is necessary to write relevant steps and correct units.
- Marks will be awarded follows :
02 marks each for questions 1 – 25 in part A 10 marks each for questions in part B.

For marking examiner's use only

	Question number	Marks
A	**1 - 25**	
B	**1**	
	2	
	3	
	4	
	5	
	Total	

……………………..
Marked by

Part A

Answer all the questions on this paper itself.
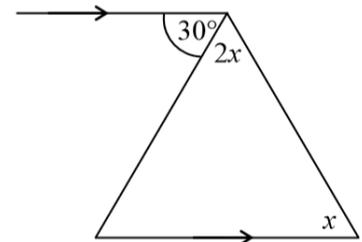
1. Select and underline the nearest value for $\sqrt{7}$.

    i. 2.5   ii. 2.6   iii. 2.7   iv. 2.4

2. How many kilometers does a train travels in 15 minutes, if it is travelling at a uniform speed of 72 kilometers per hour?

3. Express in index form. $log_2\ 32 = 5$

4. Simplify. $\dfrac{3}{4y} - \dfrac{1}{2y}$

5. According to the information given in the figure, find the value of x.

6. If a person who borrowed Rs. 2 500 for annual simple interest, pays Rs. 250 as the interest at the end of the year, find the annual simple interest rate.
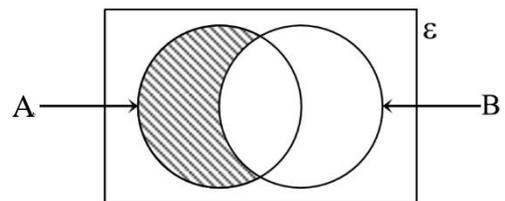
7. Find the least common multiple of the algebraic terms a^2, $2ab$.

8. How much is $\frac{2}{3}$ of Rs. 975?

9. According to the information given in the circle with the center O, find the value of x.
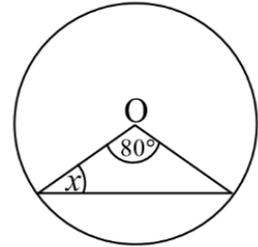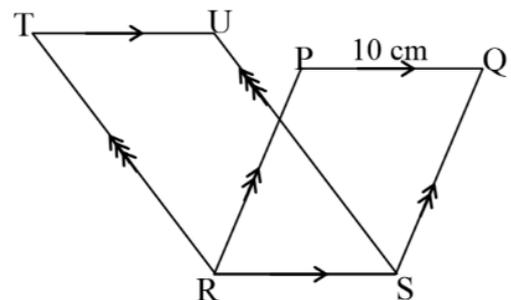

10. Write the shaded region in set notation.
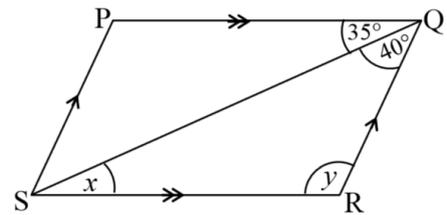

11. Factorize. $x^2 + 9x + 8$

12. In a bag there are 5 orange flavored toffees and 4 mango flavored toffees. When a toffee is taken randomly from the bag, find the probability of that toffee being a mango flavored one.

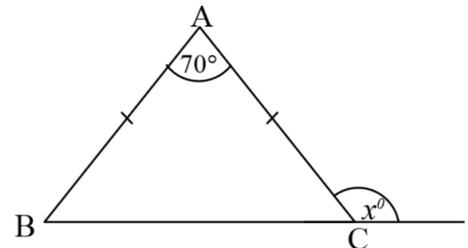13. According to the information given, find the length of TU.

14. Solve. $(a + 3)(a - 2) = 0$

15. According to given information, find the values of *x* and *y* in the parallelogram PQRS.


16. Capacity of a water tank which is used to supply water to a certain housing scheme is 3 600*l*. If the water is supplied at a rate of 18*l* per second, how many seconds will it take to empty the tank?

17. According to the information given in the figure, find the value of *x*.
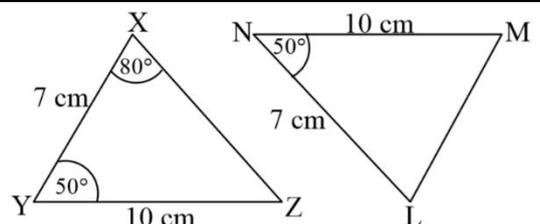

18. The figure shows an incomplete pie chart drawn using the information collected by 40 students in a certain class, regarding their favorite sport. According to that find the number of students who prefer cricket.
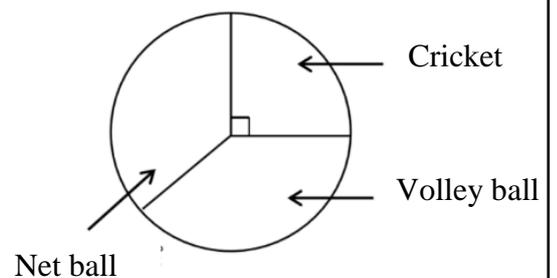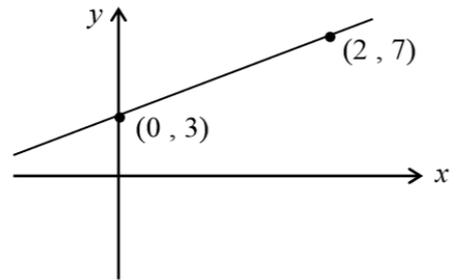

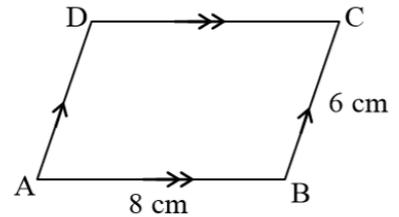19. If $x = 2$, find the value of *y* in $x + 2y = 8$.

20. The triangles XYZ and LMN are congruent. Write the case of congruency and write the magnitude of $N\hat{L}M$.
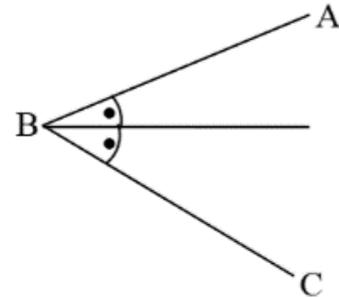
21. Find the gradient of the given straight line.

22. According to the information given in the figure, find the perimeter of the parallelogram ABCD.

23. An incomplete sketch drawn to obtain the location of a point P, which is equidistant to the lines AB and BC and equidistant to the points B and C is given below. Sketch the relevant constructions and mark the point P.

24. In the given figure, AC = AD = 8cm. Find the value of x.
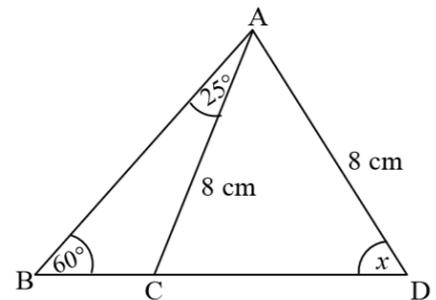
25. Solve. $\dfrac{3}{2x} = 5$

Part B

Answer all the questions on this paper itself.

01. A man bought some mangoes for Rs. 30 each. $\frac{1}{5}$ of it was rotten.
    i. What fraction of the whole lot is not rotten?

    ii. If he kept $\frac{1}{4}$ of the mangoes which are not rotten for his consumption, what fraction of the whole lot is kept for his consumption?

    iii. He sold the remaining mangoes. If the number of mangoes he sold is 60, how many mangoes did he buy?

    iv. If the number of mangoes he sold is used to manufacture jam, the manufacturing cost of a bottle of jam is Rs. 250. If a value added tax (VAT) of 15% is charged for a bottle of jam, what will be the selling price of a bottle of jam?

02. Following pie chart depict the land area allocated to cultivate different types of fruit in a certain garden.
    i. Which fruit is cultivated in least extent of land?

    ii. Find the ratio of land area allocated to cultivate mango and banana.

    iii. What fraction of the whole land is used to cultivate banana?

    iv. If the extent of land used to cultivate grapes is 60m^2, find the area of the whole garden.

    v. Find the area of the land used to cultivate pine-apple.
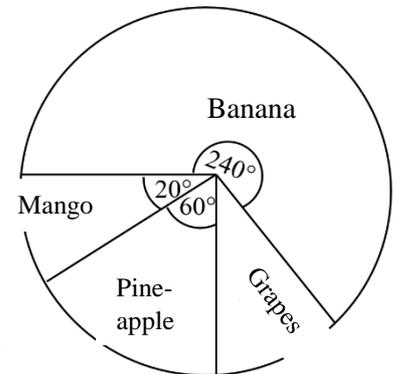
03. (a) 3 men who work 6 hours per day, take 2 days to build a parapet wall.

     i.   How many man hours are needed to build the wall?

     ii.   How many days will it take for two men who work 9 hours per day, to complete the same work?

(b) When a car is imported 15% of its value has to be paid as duty. The imported value of the car is Rs. 750 000.

     i.   What is the value of the car after paying the duty?

     ii.   At what price should the car be sold to make a profit of 12%?

04. In a netball team there are 7 equally talented players. Four of them are wearing caps, two of them are wearing red colour belts and one is wearing black socks. By taking those who wear caps as A1, A2, A3, A4, those who wear red colour belts as B1 and B2, the one who wear black socks as C1,

     i.   Write the sample space (S) to represent all the players of the team.

If a player is selected randomly,

     ii.   Find the probability of that person being a one who wears a cap.

     iii. Find the probability of that person being a one who wears black socks.

     iv. Find the probability of that person being a one who wears a red belt or black socks.

     v.   Find the probability of that person being a one who wears a red belt but not a cap.

05. As shown in the figure, AED sector is removed from the ABCD rectangular shaped metal lamina.
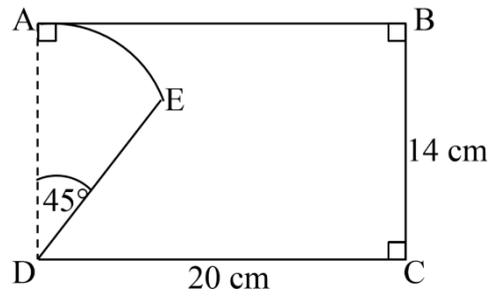
i. What is the radius of the sector?

ii. Find the perimeter of ABCDE metal lamina.

iii. Find the area of the ABCDE metal lamina.

iv. If instead of removing ADE sector, a right angle triangular portion ADF where F is situated on the line AB and equal in area of ADE is removed from the rectangle, draw the sketch of the newly obtained lamina on the same diagram and write the special name in which the shape is called.

v. Find the AF length.