

# CBSE Sample Paper Class 7 Maths Half Yearly Set 4

SUBJECT: MATHEMATICS CLASS : VII

MAX. MARKS : 80  
DURATION : 3 HRS

## General Instructions:

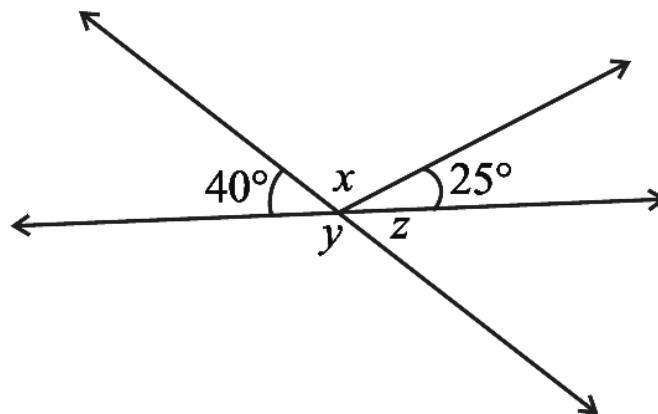
- (i). All questions are compulsory.
- (ii). This question paper contains 30 questions divided into four Sections A, B, C and D.
- (iii). **Section A** comprises of 6 questions of 1 mark each. **Section B** comprises of 6 questions of 2 marks each. **Section C** comprises of 10 questions of 3 marks each and **Section D** comprises of 8 questions of 4 marks each.
- (iv). Use of Calculators is not permitted

## SECTION – A

1. Solve:  $3n + 7 = 25$
2. Evaluate:  $[(-6) + 5] \div [(-2) + 1]$
3. Express 7 rupees 7 paise as rupees using decimals.
4. Find the angle which is equal to its supplement.
5. Find the ratio of 9 m to 27 cm
6. Ashish studies for 4 hours, 5 hours and 3 hours respectively on three consecutive days. How many hours does he study daily on an average?

## SECTION – B

7. The length of a rectangle is 7.1 cm and its breadth is 2.5 cm. What is the area of the rectangle?
8. The number of illiterate persons in a country decreased from 150 lakhs to 100 lakhs in 10 years. What is the percentage of decrease?
9. Find the values of the angles  $x$ ,  $y$ , and  $z$  in the given figure:



10. The median of observations 11, 12, 14, 18,  $x + 2$ , 20, 22, 25, 61 arranged in ascending order is 21. Find the value of  $x$ .

11. If  $\triangle DEF \cong \triangle BCA$ , write the part(s) of  $\triangle BCA$  that correspond to (i)  $\angle E$  (ii)  $EF$  (iii)  $\angle F$  (iv)  $DF$

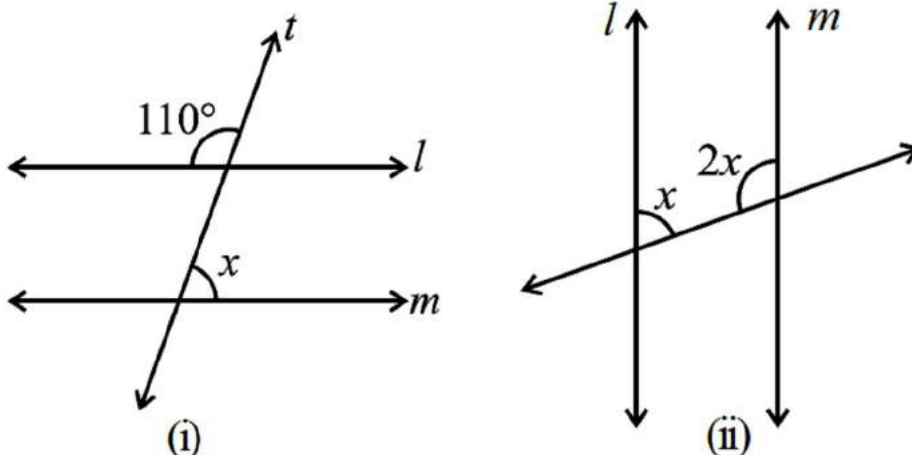
12.  $PQR$  is a triangle right angled at  $P$ . If  $PQ = 10$  cm and  $PR = 24$  cm, find  $QR$ .

### SECTION – C

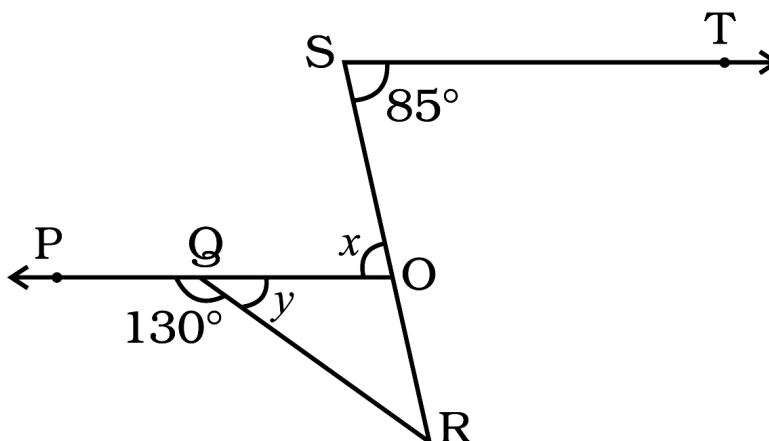
13. The marks (out of 100) obtained by a group of students in a science test are 85, 76, 90, 85, 39, 48, 56, 95, 81 and 75. Find the:

- (i) Range of the marks obtained.
- (ii) Mean marks obtained by the group.
- (iii) What you will do to get good marks?

14. Find the value of  $x$  in each of the following figures if  $l \parallel m$ .



15. In the below figure, if  $PQ \parallel ST$  then find the value of  $x + y$ .



16. Maya, Madhura and Mohsina are friends studying in the same class. In a class test in geography, Maya got 16 out of 25. Madhura got 20. Their average score was 19. How much did Mohsina score?

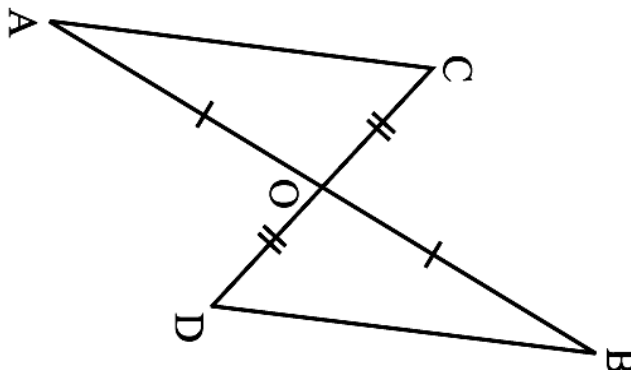
17. The temperature at 12 noon was  $10^{\circ}\text{C}$  above zero. If it decreases at the rate of  $2^{\circ}\text{C}$  per hour until midnight, at what time would the temperature be  $8^{\circ}\text{C}$  below zero? What would be the temperature at mid-night?

18. Selling price of a toy car is Rs 540. If the profit made by shopkeeper is 20%, what is the cost price of this toy?

19. Solve (a)  $4(m + 3) = 18$  (b)  $-2(x + 3) = 5$

20. Sushant reads  $\frac{1}{3}$  part of a book in 1 hour. How much part of the book will he read in  $2\frac{1}{5}$  hours?

21. In the below figure, AB and CD bisect each other at O. Prove that (i)  $\triangle AOC \cong \triangle BOD$  (ii)  $AC = BD$



22. Two poles of 10 m and 15 m stand upright on a plane ground. If the distance between the tops is 13 m, find the distance between their feet.

### SECTION – D

23. Manoj donates Rs. 2000 to a school, the interest on which is to be used for awarding 5 scholarships of equal value every year. If the donator earns an interest of 10% per annum, find the value of each scholarship. What value depicted from this?

24. The foot of a ladder is 6 m away from its wall and its top reaches a window 8 m above the ground, (a) Find the length of the ladder. (b) If the ladder is shifted in such a way that its foot is 8 m away from the wall, to what height does its top reach?

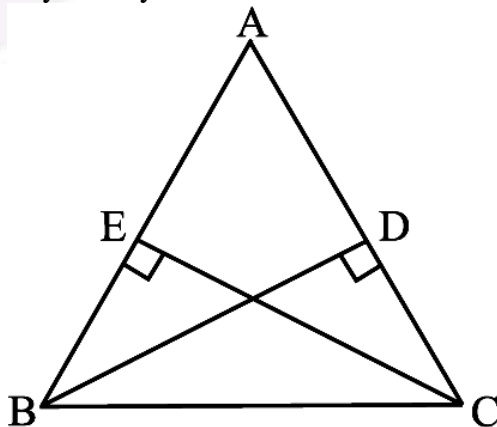
25. The length of a rectangle is two times its width. The perimeter of the rectangle is 180 cm. Find the dimensions of the rectangle and also find its area.

26. In the below figure, BD and CE are altitudes of  $\triangle ABC$  such that  $BD = CE$ .

(i) State the three pairs of equal parts in  $\triangle CBD$  and  $\triangle BCE$ .

(ii) Is  $\triangle CBD \cong \triangle BCE$ ? Why or why not?

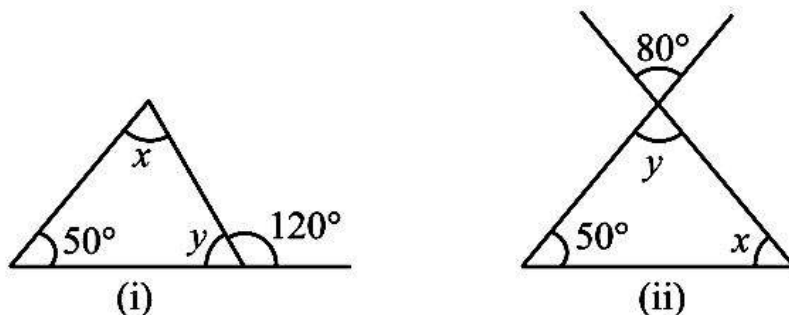
(iii) Is  $\angle DCB = \angle ECB$ ? Why or why not?



27. A shopkeeper earns a profit of Re 1 by selling one pen and incurs a loss of 40 paise per pencil while selling pencils of her old stock. (i) In a particular month she incurs a loss of Rs 5. In this period, she sold 45 pens. How many pencils did she sell in this period? (ii) In the next month she earns neither profit nor loss. If she sold 70 pens, how many pencils did she sell?

28. It takes 17 full specific type of trees to make one tonne of paper. If there are 221 such trees in a forest, then (i) what fraction of forest will be used to make; (a) 5 tonnes of paper. (b) 10 tonnes of paper. (ii) To save  $\frac{7}{13}$  part of the forest how much of paper we have to save.

29. Find the values of the unknowns  $x$  and  $y$  in the following diagrams:



30. Two hundred students of 6th and 7th class were asked to name their favourite colour so as to decide upon what should be the colour of their School Building. The results are shown in the following table. Represent the given data on a bar graph.

Favourite Colour	Red	Green	Blue	Yellow	Orange
Number of Students	43	19	55	49	34

Answer the following questions with the help of the bar graph:

- Which is the most preferred colour and which is the least preferred?
- How many colours are there in all? What are they?