KENDRIYA VIDYALAYA, VIJAYAPURA

Sample paper 1 for half yearly examination(2019-20)

Subject: Mathematics   Max marks : 80

Class: VII   Time : 2 1/2 Hrs

General Instructions:

1.Allquestions are compulsory.

 2.Section A comprises of 20 questions carrying 1 mark each.

3.Section B comprises of 6questions carrying 2 marks each.

4.Section C comprises of 8questions carrying 3 marks each.

5.Section D comprises of 6questions carrying 4 marks each.

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?

7. Find 11.2×0.15

8. Arrange $\underline{2}$, $\underline{2}$, $\underline{8}$ in descending order.

          9   3   21

9. Write the equation for : Seven times m plus 7 gets you 77.

10. Write down pair of integers whose difference is -10.

11. Solve $(-21) \times (-30)$.

12. Find the complement angle of $47°$.

13. If two adjacent angles are supplementary, they form a ....

14. Is it possible to have a triangle with sides 2cm , 3cm and 5 cm.

15. State Pythagoras property,

16. The measure of any exterior angle of a triangle is equal to the sum of the measure of its ....

17. Two line segments are congruent if ....

18. If AC = DF , AB = DE and BC = EF then triangle CAB is congruent to triangle ....by ....property.

19. Are the ratios 1:2 and 2:3 equivalent.

20. Convert 0.09 to percents.

SECTION – B

21. The length of a rectangle is 7.1 cm and its breadth is 2.5 cm. What is the area of the rectangle?

22. The number of illiterate persons in a country decreased from 150 lakhs to 100 lakhs in 10 years. What is the percentage of decrease?

23. Find the values of the angles x, y, and z in the given figure:
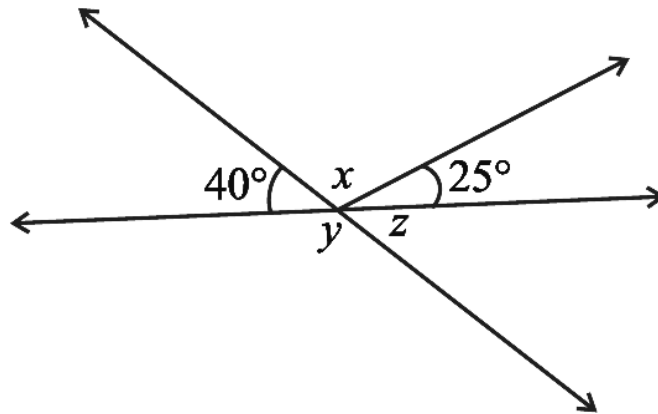
24. The median of observations 11, 12, 14, 18, $x + 2$, 20, 22, 25, 61 arranged in ascending order is 21. Find the value of x.

25. 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

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

SECTION – C

27. 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?

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

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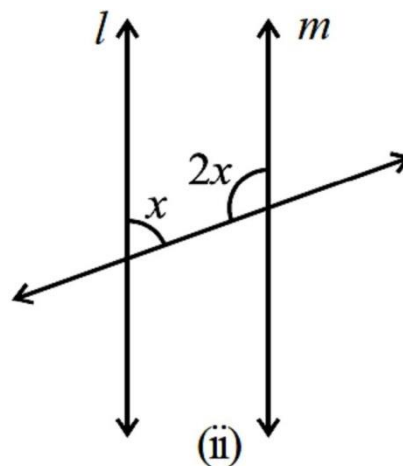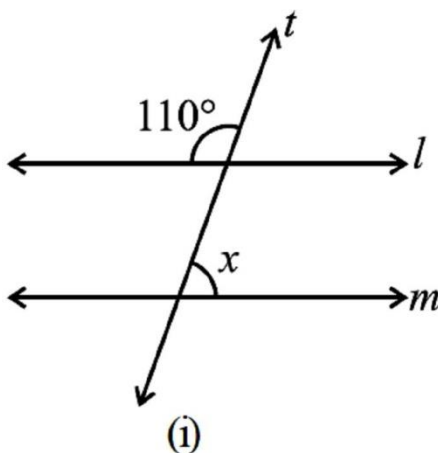
29. The foot of a ladder is 6 m away from its wall and its top reaches a window 8 m above the ground, (a) Find the length of the ladder. (b) If the ladder is shifted in such a way that its foot is 8 m away from the wall, to what height does its top reach?

OR

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

(i)   (ii)
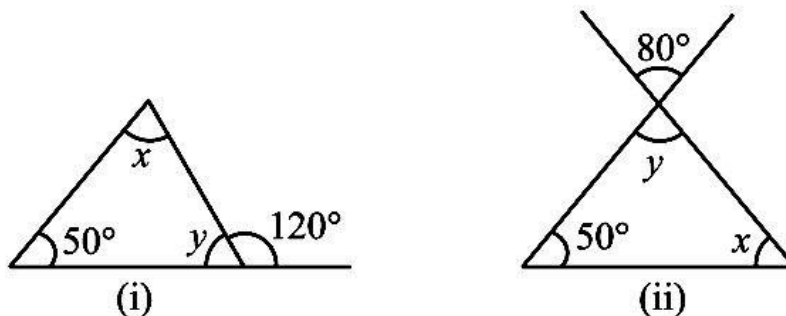
30. The temperature at 12 noon was 10°C above zero. If it decreases at the rate of 2°C per hour until midnight, at what time would the temperature be 8°C below zero? What would be the temperature at mid-night?

31. 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?
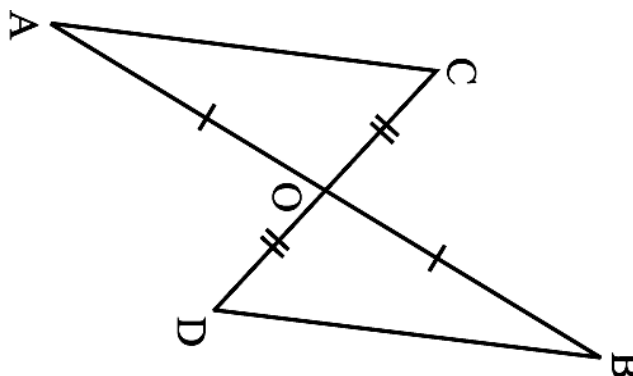
OR

The cost of a flower vase is Rs 120. If the shopkeeper sells it at a loss of 10 % Find the price at which it is sold.

32. Solve (a) 4 (m + 3) = 18 (b) – 2(x + 3) = 5

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

34. In the figure, AB and CD bisect each other at O. Prove that

(i) $\triangle AOC \cong \triangle BOD$
(ii) AC =BD

SECTION – D

35. 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?

36. 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.

37. In the below figure, BD and CE are altitudes of ΔABC such that BD = CE.
(i) State the three pairs of equal parts in ΔCBD and ΔBCE.
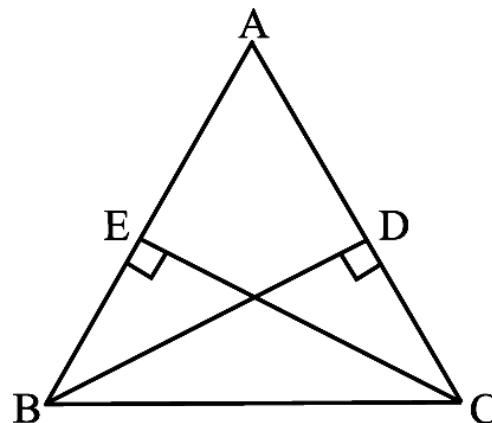
(ii) Is ΔCBD ☐ ΔBCE? Why or why not?
(iii) Is ∠ DCB = ∠ EBC? Why or why not?

38. An elevator descends into a mine shaft at the rate of 6m/min. if the descent starts from 10m above the ground level, how long will it take to reach -350m.

OR

Solve the following:

(a) [(-36) ÷ 12] ÷ 3

(b) [(-6) + 5] ÷ [(-2) + 1]

39. 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?

40. 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:
(a)Which is the most preferred colour and which is the least preferred?
(b)How many colours are there in all? What are they?