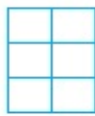


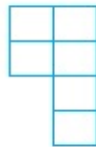
NAME : ARNAV PURI
SUBJECT : MATHS

MENSURATION

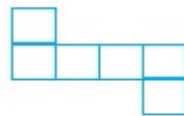
1. Following figures are formed by joining six unit squares. Which figure has the smallest perimeter in Fig. 6.4?



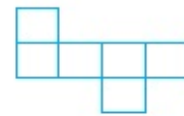
(i)



(ii)

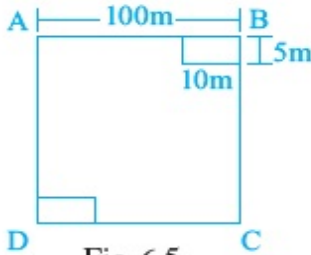


(iii)



(iv)

Fig. 6.4

- (A) (ii) (B) (iii) (C) (iv) (D) (i)
2. A square shaped park ABCD of side 100m has two equal rectangular flower beds each of size 10m × 5m (Fig. 6.5). Length of the boundary of the remaining park is
- (A) 360m (B) 400m
(C) 340m (D) 460m
- 
- Fig. 6.5
3. The side of a square is 10cm. How many times will the new perimeter become if the side of the square is doubled?
- (A) 2 times (B) 4 times (C) 6 times (D) 8 times

Perimeter of an isosceles triangle is 50cm. If one of the two equal sides is 18cm, find the third side.

Length of a rectangle is three times its breadth. Perimeter of the rectangle is 40cm. Find its length and width.

4. Length and breadth of a rectangular sheet of paper are 20cm and 10cm, respectively. A rectangular piece is cut from the sheet as shown in Fig. 6.6. Which of the following statements is correct for the remaining sheet?

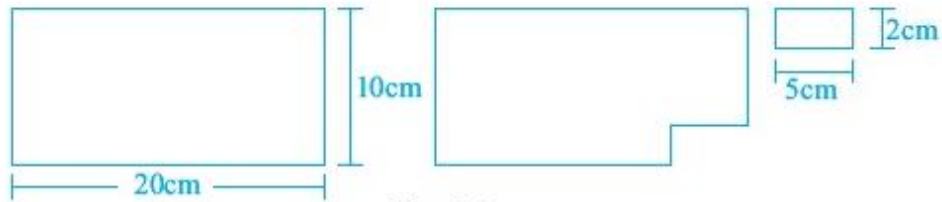


Fig. 6.6

- (A) Perimeter remains same but area changes.
(B) Area remains the same but perimeter changes.
(C) Both area and perimeter are changing.
(D) Both area and perimeter remain the same.
5. Two regular Hexagons of perimeter 30cm each are joined as shown in Fig. 6.7. The perimeter of the new figure is
- (A) 65cm (B) 60cm
(C) 55cm (D) 50cm



Fig. 6.7

33. The perimeter of a regular pentagon is 1540cm. How long is its each side?
34. The perimeter of a triangle is 28cm. One of it's sides is 8cm. Write all the sides of the possible isosceles triangles with these measurements.

In Fig. 6.8 which of the following is a regular polygon? All have equal side except (i)



Fig. 6.8

- (A) (i) (B) (ii)
 (C) (iii) (D) (iv)

37. In an exhibition hall, there are 24 display boards each of length 1m 50cm and breadth 1m. There is a 100m long aluminium strip, which is used to frame these boards. How many boards will be framed using this strip? Find also the length of the aluminium strip required for the remaining boards.

28. Three squares are joined together as shown in Fig. 6.14. Their sides are 4cm, 10cm and 3cm. Find the perimeter of the figure.

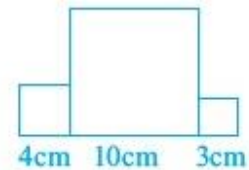


Fig. 6.14

29. In Fig. 6.15 all triangles are equilateral and $AB = 8$ units. Other triangles have been formed by taking the mid points of the sides. What is the perimeter of the figure?

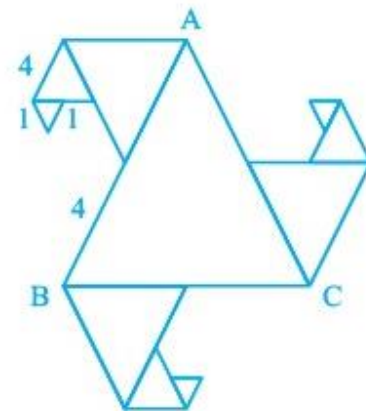






Fig. 6.15

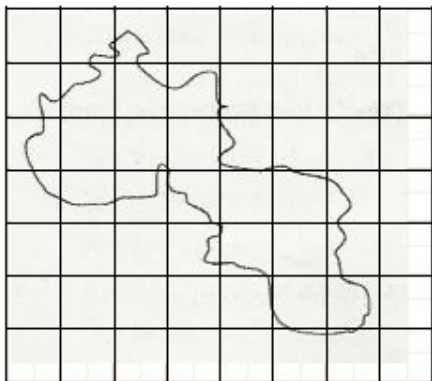
30. Length of a rectangular field is 250m and width is 150m. Anuradha runs around this field 3 times. How far did she run? How many times she should run around the field to cover a distance of 4km?

7. Match the shapes (each sides measures 2cm) in column I with the corresponding perimeters in column II:

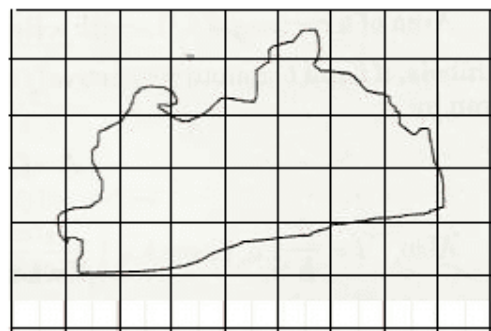
Column I	Column II
(A) 	(i) 16cm
(B) 	(ii) 20cm
(C) 	(iii) 24cm
(D) 	(iv) 28cm
	(v) 32cm

27. The length of a rectangular field is twice its breadth. Jamal jogged around it four times and covered a distance of 6km. What is the length of the field? _____

Ques. Find the Area of the following figures



(i)



(ii)



Question 17. A rectangular piece of land measure 0.7 km by 0.5 km. Each side is to be fenced with four rows of wires. What length of the wire is needed?

Question 6. What will happen to the area of a rectangle if its

(i) Length and breadth are trebled (ii) Length is doubled and breadth is same

(iii) Length is doubled

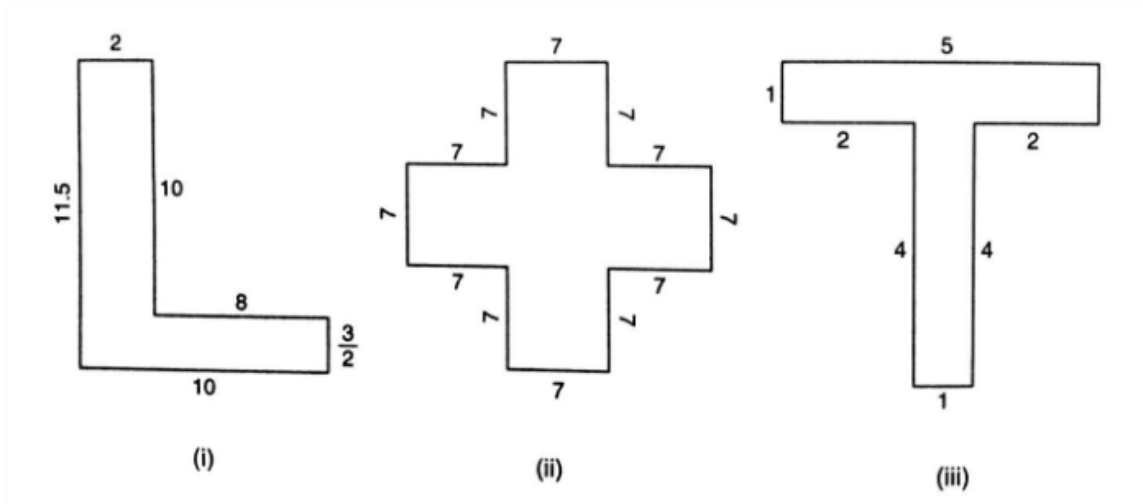
Question 7. What will happen to the area of a square if its side is:

(i) Tripled (ii) increased by half of it

Question 9. A rectangle has the area equal to that of a square of side 80 cm. If the breadth of the rectangle is 20 cm, Find its length.

Question 12. A marble tile measures 10 cm × 12 cm. How many tiles will be required to cover a wall of size 3m × 4m? Also, find the total cost of the tiles at the rate of Rs 2 per tile.

Question 15. Split the following shapes into rectangles and find the area of each. (The measures are given in centimeters)



39. What is the length of outer boundary of the park shown in Fig. 6.16? What will be the total cost of fencing it at the rate of Rs 20 per metre? There is a rectangular flower bed in the center of the park. Find the cost of manuring the flower bed at the rate of Rs 50 per square metre.

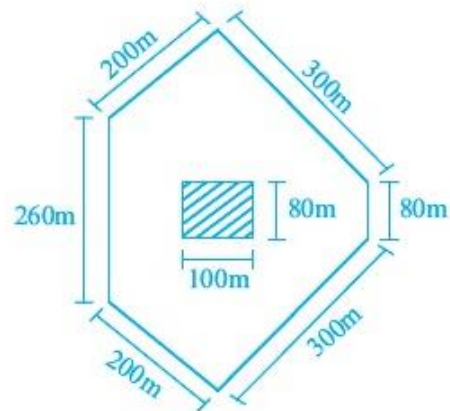


Fig. 6.16

40. Total cost of fencing the park shown in Fig. 6.17 is Rs 55000. Find the cost of fencing per metre.

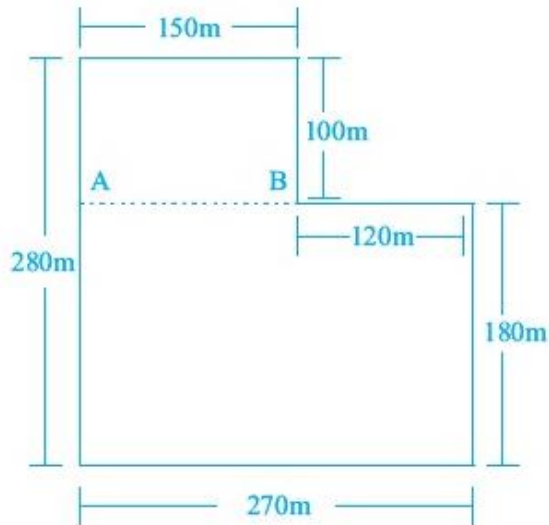


Fig. 6.17

54. A wire is cut into several small pieces. Each of the small pieces is bent into a square of side 2cm. If the total area of the small squares is 28 square cm, what was the original length of the wire?
50. Amita wants to make rectangular cards measuring $8\text{cm} \times 5\text{cm}$. She has a square chart paper of side 60cm. How many complete cards can she make from this chart? What area of the chart paper will be left?
51. A magazine charges Rs 300 per 10sqcm area for advertising. A company decided to order a half page advertisement. If each page of the magazine is $15\text{cm} \times 24\text{cm}$, what amount will the company have to pay for it?
52. The perimeter of a square garden is 48m. A small flower bed covers 18sqm area inside this garden. What is the area of the garden that is not covered by the flower bed? What fractional part of the garden is covered by flower bed? Find the ratio of the area covered by the flower bed and the remaining area.

BASICS OF GEOMETRY

3. A _____ has only one end point.

7. Curve in which starting point and ending points does not meet is called _____ curve.

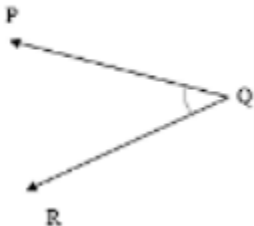
8. All radii of circle are equal. Say True or False

5. Choose the false statement.

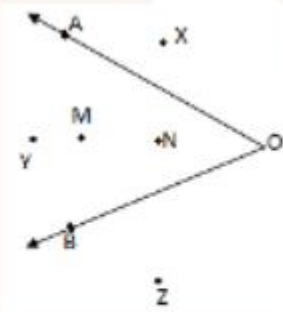
- (a) Line \overleftrightarrow{PQ} is same as that of line \overleftrightarrow{QP}
- (b) Ray \overrightarrow{PQ} is same as ray \overrightarrow{QP}
- (c) Line segment \overline{PQ} is same as the line segment \overline{QP}
- (d) None of these

11. A _____ of a circle is a line segment at the one end point in centre and other end point on circumference.

2. Name the vertex and arms of $\angle PQR$ in the figure.



3. In the given figure, list the points which



- (a) are interior of $\angle AOB$
- (b) are exterior of $\angle AOB$
- (c) lie on $\angle AOB$

Q. Explain the following terms with the help of diagram

- (a) Intersecting lines
- (b) Parallel lines
- (c) Concurrent lines
- (d) Collinear points

2. Match the following:

- | | |
|-------------------|--------------|
| (a) Triangle | (1) 4 sides |
| (b) Quadrilateral | (2) 8 sides |
| (c) Heptagon | (3) 3 sides |
| (d) Pentagon | (4) 5 sides |
| (e) Octagon | (5) 10 sides |
| (f) Hexagon | (6) 6 sides |
| | (7) 7 sides |

1. Define the following:

- (a) Circumference of circle
- (b) segments of circle
- (c) semicircle
- (d) sector of circle

2. Say True or False

- (a) Two lines are parallel if they do not meet, even when produced.
- (b) Two parallel lines are everywhere the same distance apart.
- (c) If two line segments do not intersect, they are parallel.
- (d) If two rays do not intersect, they are parallel.

73. In Fig. 2.47, O is the centre of the circle.

- (a) Name all chords of the circle.
- (b) Name all radii of the circle.
- (c) Name a chord, which is not the diameter of the circle.
- (d) Shade sectors OAC and OPB.
- (e) Shade the smaller segment of the circle formed by CP.

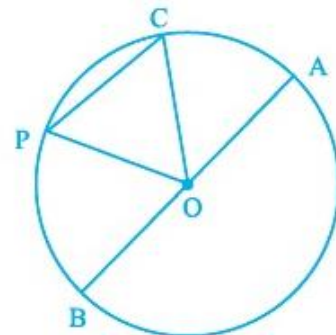


Fig. 2.47

78. Draw all the diagonals of a pentagon ABCDE and name them.

28. The number of common points in the two angles marked in Fig. 2.19 is _____.

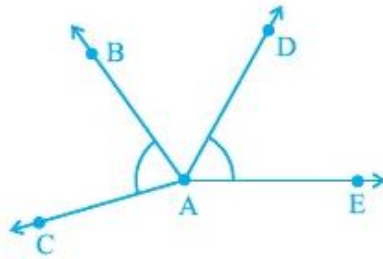


Fig. 2.19

29. The number of common points in the two angles marked in Fig. 2.20 _____ .

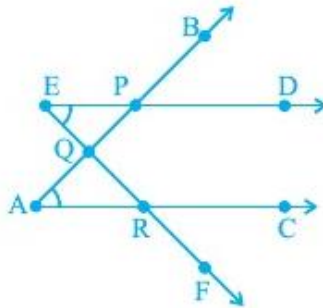


Fig. 2.20

10. The number of triangles in Fig. 2.10 is

- (A) 10 (B) 12
(C) 13 (D) 14

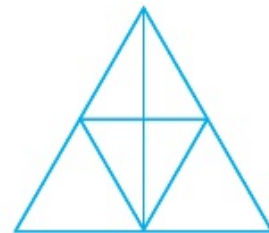


Fig. 2.10

47. Name the following angles of Fig. 2.29, using three letters:

- (a) $\angle 1$
- (b) $\angle 2$
- (c) $\angle 3$
- (d) $\angle 1 + \angle 2$
- (e) $\angle 2 + \angle 3$
- (f) $\angle 1 + \angle 2 + \angle 3$
- (g) $\angle CBA - \angle 1$

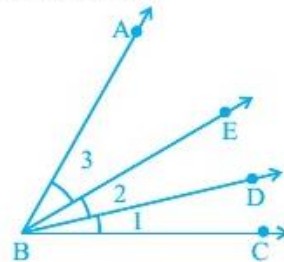


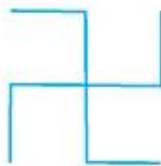
Fig. 2.29

Symmetry

1. In the following figures, the figure that is not symmetric with respect to any line is:



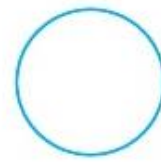
(i)



(ii)



(iii)



(iv)

- (A) (i) (B) (ii) (C) (iii) (D) (iv)
2. The number of lines of symmetry in a scalene triangle is
- (A) 0 (B) 1 (C) 2 (D) 3
3. The number of lines of symmetry in a circle is
- (A) 0 (B) 2 (C) 4 (D) more than 4
4. Which of the following letters does not have the vertical line of symmetry?
- (A) M (B) H (C) E (D) V
5. Which of the following letters have both horizontal and vertical lines of symmetry?
- (A) X (B) E (C) M (D) K
6. Which of the following letters does not have any line of symmetry?
- (A) M (B) S (C) K (D) H

7. Which of the following letters has only one line of symmetry?
(A) H (B) X (C) Z (D) T
19. The number of lines of symmetry in a picture of Taj Mahal is _____.
20. The number of lines of symmetry in a rectangle and a rhombus are _____ (equal/unequal).
21. The number of lines of symmetry in a rectangle and a square are _____ (equal/unequal).
26. The number of lines of symmetry in Fig. 9.11 is _____.



Fig. 9.11

36. The number of lines of symmetry in a regular hexagon is _____.

True False Type Questions

43. A right triangle can have at most one line of symmetry.
44. A kite has two lines of symmetry.
45. A parallelogram has no line of symmetry.
46. If an isosceles triangle has more than one line of symmetry, then it need not be an equilateral triangle.
47. If a rectangle has more than two lines of symmetry, then it must be a square.

65. Write the letters of the word 'MATHEMATICS' which have no line of symmetry.

66. Write the number of lines of symmetry in each letter of the word 'SYMMETRY'.

67. Match the following:

Shape	Number of lines of symmetry
(i) Isosceles triangle	(a) 6
(ii) Square	(b) 5
(iii) Kite	(c) 4
(iv) Equilateral triangle	(d) 3
(v) Rectangle	(e) 2
(vi) Regular hexagon	(f) 1
(vii) Scalene triangle	(g) 0

71. Complete the figure so that line l becomes the line of symmetry of the whole figure (Fig. 9.16).

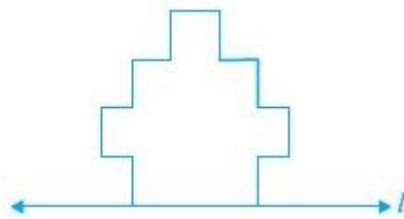


Fig. 9.16

Ques. Draw all possible lines of symmetry in the following figures.

