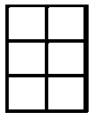


Multiple Choice Questions (Questions 1-6)

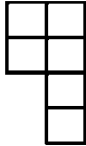
Choose the correct answer from the four options given.

Question 1

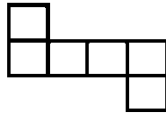
Following figures are formed by joining six unit squares. Which figure has the smallest perimeter?



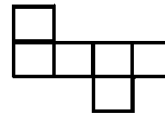
(i)



(ii)



(iii)



(iv)

Solution: Figure (i) has the smallest perimeter.

Explanation: Perimeter of a closed figure is the distance covered in one round along the boundary of the figure.

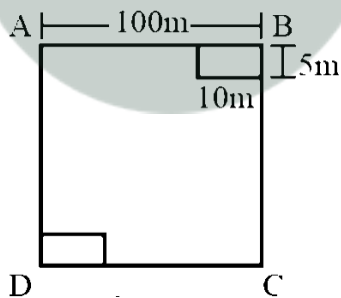
For each figure:

- **Figure (i):** 10 unit sides, each of length 1 cm
 - Perimeter = $10 \times 1 = 10$ cm
- **Figure (ii):** 12 unit sides, each of length 1 cm
 - Perimeter = $12 \times 1 = 12$ cm
- **Figure (iii):** 14 unit sides, each of length 1 cm
 - Perimeter = $14 \times 1 = 14$ cm
- **Figure (iv):** 14 unit sides, each of length 1 cm
 - Perimeter = $14 \times 1 = 14$ cm

Answer: Figure (i) has the smallest perimeter of 10 cm.

Question 2

A square shaped park ABCD of side 100m has two equal rectangular flower beds each of size 10m × 5m. Length of the boundary of the remaining park is:



- (A) 360m
 (B) 400m
 (C) 340m
 (D) 460m

Solution: (B) 400m

Explanation: The boundary length equals the perimeter of the remaining park after placing the flower beds.

Following the boundary: $90 + 5 + 10 + 95 + 90 + 5 + 10 + 95 = 400$ m

Question 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

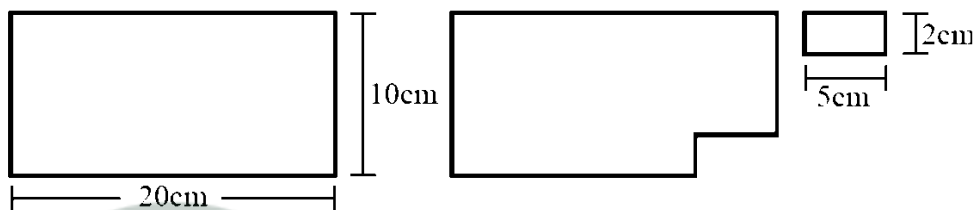
Solution: (A) 2 times

Explanation:

- Original perimeter = $4 \times 10 = 40$ cm
- New side when doubled = 20 cm
- New perimeter = $4 \times 20 = 80$ cm
- Ratio = $80/40 = 2$ times

Question 4

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



- (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

Solution: (A) Perimeter remains same but area changes

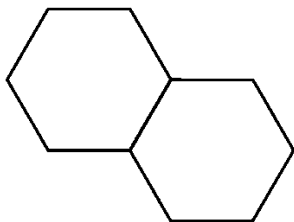
Explanation:

- Original area = $20 \times 10 = 200$ cm²
- Cut piece area = $5 \times 2 = 10$ cm²
- Original perimeter = $2(20 + 10) = 60$ cm
- New figure perimeter = $20 + 8 + 5 + 2 + 15 + 10 = 60$ cm
- New area = $200 - 10 = 190$ cm²

The perimeter remains the same while the area decreases.

Question 5

Two regular hexagons of perimeter 30cm each are joined. The perimeter of the new figure is:



- (A) 65cm
 (B) 60cm
 (C) 55cm
 (D) 50cm

Solution: (D) 50cm

Explanation:

- Each hexagon has 6 sides

- Length of each side = $30/6 = 5$ cm
- When two hexagons are joined, the new figure has 10 outer sides
- Perimeter = $10 \times 5 = 50$ cm

Question 6

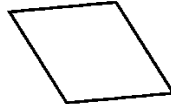
Which of the following is a regular polygon? (All have equal sides except (i))



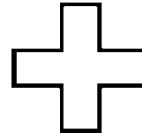
(i)



(ii)



(iii)



(iv)

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




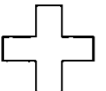
Solution: (B) (ii)

Explanation: A regular polygon is a closed figure where all sides and angles are equal. Among the given options, figure (ii) represents a square, which has both equal sides and equal angles.





Matching Questions

Question 7

Match the shapes (each side 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



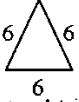
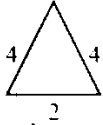
Solution:

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

- **Figure (A):** 14 sides \rightarrow Perimeter = $14 \times 2 = 28$ cm \rightarrow (iv)
- **Figure (B):** 8 sides \rightarrow Perimeter = $8 \times 2 = 16$ cm \rightarrow (i)
- **Figure (C):** 10 sides \rightarrow Perimeter = $10 \times 2 = 20$ cm \rightarrow (ii)
- **Figure (D):** 12 sides \rightarrow Perimeter = $12 \times 2 = 24$ cm \rightarrow (iii)


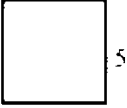
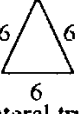
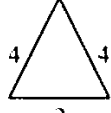
Question 8

Match the shapes with their perimeters:

Shapes	Perimeter
(A)  rectangle	(i) 10
(B)  square	(ii) 18
(C)  equilateral triangle	(iii) 20
(D)  isosceles triangle	(iv) 25

Solution:

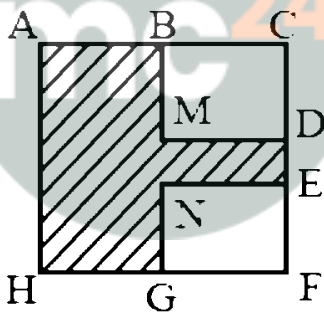
- **(A) Rectangle (6 \times 4):** Perimeter = $2(6+4) = 20 \rightarrow$ (iii)
- **(B) Square (side 5):** Perimeter = $4 \times 5 = 20 \rightarrow$ (iii)
- **(C) Equilateral triangle (side 6):** Perimeter = $3 \times 6 = 18 \rightarrow$ (ii)
- **(D) Isosceles triangle (4,4,2):** Perimeter = $4+4+2 = 10 \rightarrow$ (i)

Shapes	Perimeter
(A)  rectangle	(iii) 20
(B)  square	(iii) 20
(C)  equilateral triangle	(ii) 18
(D)  isosceles triangle	(i) 10

Fill in the Blanks (Questions 9-13)

Question 9

Perimeter of the shaded portion is $AB + \underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad} + HA$



Answer: $AB + BM + MD + DE + EN + NG + GH + HA$

Question 10

The amount of region enclosed by a plane closed figure is called its _____.

Answer: area

Question 11

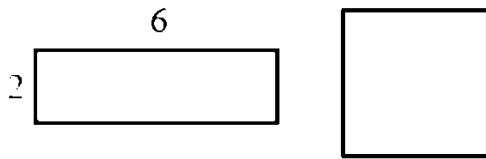
Area of a rectangle with length 5cm and breadth 3cm is _____.

Answer: 15 cm^2

- Area = length \times breadth = $5 \times 3 = 15 \text{ cm}^2$

Question 12

A rectangle and a square have the same perimeter.



(a) The area of the rectangle is _____.

Answer: 12 sq. units

- Rectangle dimensions: 6×2
- Area = $6 \times 2 = 12$ sq. units

(b) The area of the square is _____.

Answer: 16 sq. units

- Rectangle perimeter = $2(6+2) = 16$ units
- Square side = $16/4 = 4$ units
- Square area = $4 \times 4 = 16$ sq. units

Question 13

(a) $1\text{m} =$ _____ cm.

Answer: 100 cm

(b) $1\text{ sq cm} =$ _____ cm \times 1cm.

Answer: 1 cm \times 1cm

(c) $1\text{ sq m} = 1\text{m} \times$ _____ m = $100\text{cm} \times$ _____ cm.

Answer: $1\text{m} \times 1\text{m} = 100\text{cm} \times 100\text{cm}$

(d) $1\text{ sq m} =$ _____ sq cm.

Answer: 10,000 sq cm

True/False Questions (Questions 14-20)

Question 14

If length of a rectangle is halved and breadth is doubled then the area of the rectangle obtained remains same.

Answer: True

Explanation:

- Original area = $l \times b$
- New area = $(l/2) \times (2b) = l \times b$
- The area remains the same.

Question 15

Area of a square is doubled if the side of the square is doubled.

Answer: False

Explanation:

- Original area = side^2
- New area = $(2 \times \text{side})^2 = 4 \times \text{side}^2$
- The area becomes 4 times, not doubled.

Question 16

Perimeter of a regular octagon of side 6cm is 36cm.

Answer: False

Explanation:

- Perimeter = $8 \times 6 = 48$ cm (not 36 cm)

Question 17

A farmer who wants to fence his field, must find the perimeter of the field.

Answer: True

Question 18

An engineer who plans to build a compound wall on all sides of a house must find the area of the compound.

Answer: False

Explanation: The engineer needs to find the perimeter to determine the length of the wall needed.

Question 19

To find the cost of painting a wall we need to find the perimeter of the wall.

Answer: False

Explanation: We need to find the area of the wall to calculate painting costs.

Question 20

To find the cost of a frame of a picture, we need to find the perimeter of the picture.

Answer: True

Word Problems (Questions 21-30)**Question 21**

Four regular hexagons are drawn to form a design. If the perimeter of the design is 28cm, find the length of each side of the hexagon.

**Solution:**

- The design has 14 outer sides
- Length of each side = $28/14 = 2$ cm
- **Answer: 2 cm**

Question 22

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

Solution:

- Let the third side be x
- $18 + 18 + x = 50$
- $36 + x = 50$
- $x = 14$ cm
- **Answer: 14 cm**

Question 23

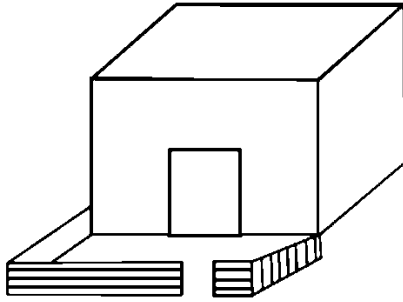
Length of a rectangle is three times its breadth. Perimeter of the rectangle is 40cm. Find its length and width.

Solution:

- Let breadth = b , then length = $3b$
- Perimeter = $2(3b + b) = 8b = 40$
- $b = 5$ cm
- Length = $3 \times 5 = 15$ cm
- **Answer: Length = 15 cm, Width = 5 cm**

Question 24

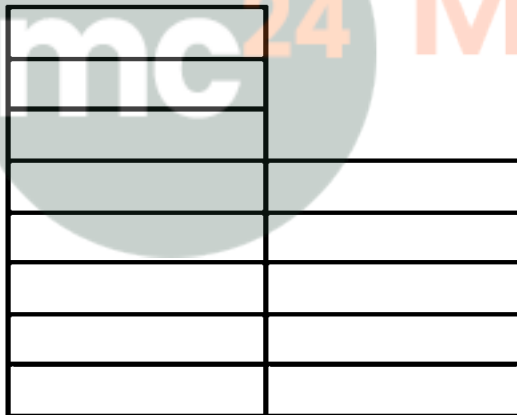
There is a rectangular lawn 10m long and 4m wide. It is fenced along two smaller sides and one longer side leaving a gap of 1m for entrance. Find the length of fencing.

**Solution:**

- Fencing needed = $4 + 4 + 10 - 1 = 17$ m
- **Answer: 17 m**

Question 25

A region is measured by taking a rectangle as one unit. What is the area of the region?

**Solution:**

- Count the number of unit rectangles = 13
- Area = $13 \times 1 = 13$ sq. units
- **Answer: 13 sq. units**

Question 26

Tahir measured the distance around a square field as 200 rods. Later he found that the length of this rod was 140cm. Find the side of this field in metres.

Solution:

- Total perimeter = $200 \times 140 = 28,000$ cm
- Side of square = $28,000/4 = 7,000$ cm = 70 m
- **Answer: 70 m**

Question 27

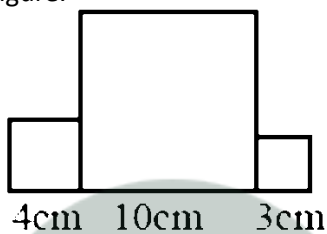
The length of a rectangular field is twice its breadth. Jamal jogged around it four times and covered a distance of 6km. What is the length of the field?

Solution:

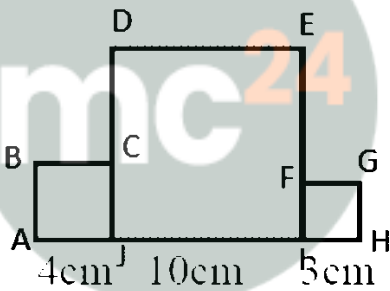
- Perimeter of field = $6000/4 = 1500 \text{ m} = 1.5 \text{ km}$
- Let breadth = b , length = $2b$
- $2(2b + b) = 1.5$
- $6b = 1.5$
- $b = 0.25 \text{ km} = 250 \text{ m}$
- Length = $2 \times 250 = 500 \text{ m}$
- **Answer: 500 m**

Question 28

Three squares are joined together. Their sides are 4cm, 10cm and 3cm. Find the perimeter of the figure.



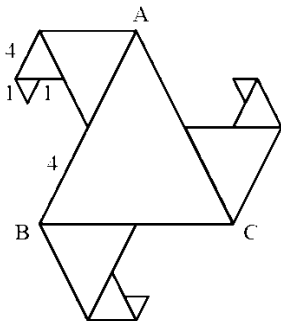
Solution:



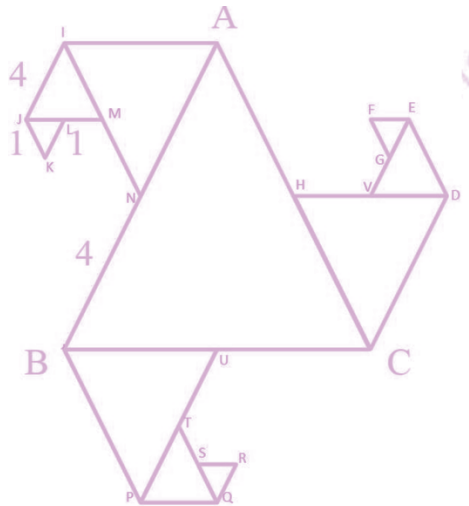
- Perimeter = $4 + 4 + (10-4) + 10 + (10-3) + 3 + 3 + 3 + 10 + 4$
- $= 4 + 4 + 6 + 10 + 7 + 3 + 3 + 3 + 10 + 4 = 54 \text{ cm}$
- **Answer: 54 cm**

Question 29

All triangles are equilateral and $AB = 8$ units. Other triangles have been formed by taking midpoints of the sides. What is the perimeter of the figure?



Solution:



- Counting all outer sides and calculating their lengths
- Total perimeter = 45 units
- **Answer: 45 units**

Question 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 should she run around the field to cover a distance of 4km?

Solution:

- Perimeter = $2(250 + 150) = 800$ m
- Distance in 3 rounds = $3 \times 800 = 2400$ m = 2.4 km
- For 4 km: Number of rounds = $4000/800 = 5$ times
- **Answer: She ran 2.4 km; She should run 5 times for 4 km**

Key Concepts Summary**Perimeter**

- **Rectangle:** $2(\text{length} + \text{breadth})$
- **Square:** $4 \times \text{side}$
- **Triangle:** Sum of all three sides
- **Regular polygon:** Number of sides \times length of each side

Area

- **Rectangle:** length \times breadth
- **Square:** side \times side

Unit Conversions

- 1 m = 100 cm
- 1 sq m = 10,000 sq cm