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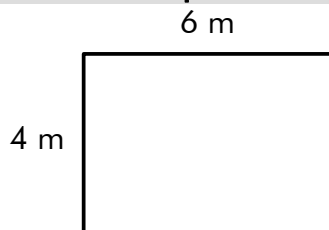
Area and Its Boundary



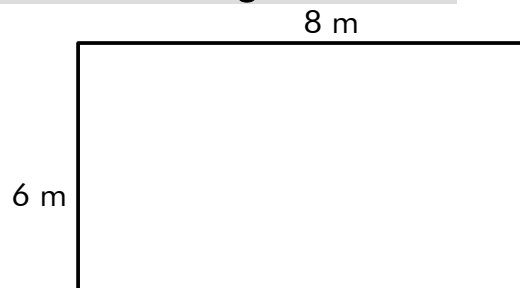
A. Tick (✓) the unit of area you will use to find the area of the following.

Products	sq. cm	sq. m	sq. km
1. A football field			
2. A blackboard			
3. Name plate			
4. Ludo board			
5. A temple city of India			
6. The door of class room			
7. A tree			
8. A page of your note book			
9. A cellphone			
10. A forest area			

B. Rooms in a house needs an Italian floor covering. The square marble tile is of area 4 sq. m. the dimensions of floors are given below



A



B

1. How many tiles will be required for each floor?

2. How many square metres of marble will be needed for each of these floors?

C. Multiple choice questions.


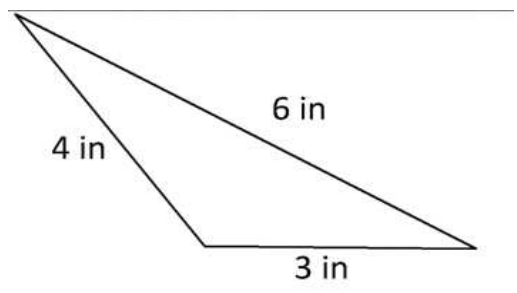
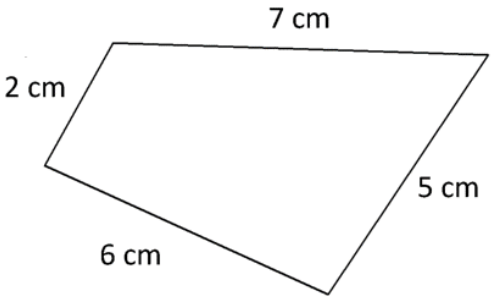
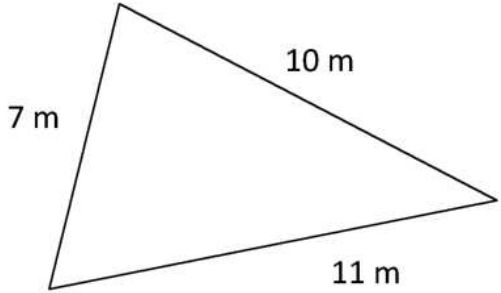
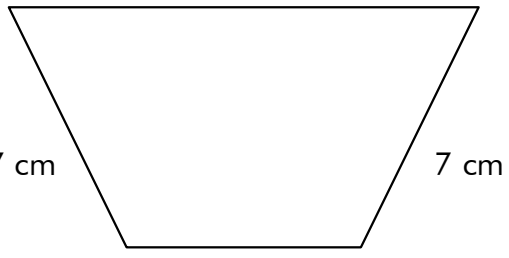
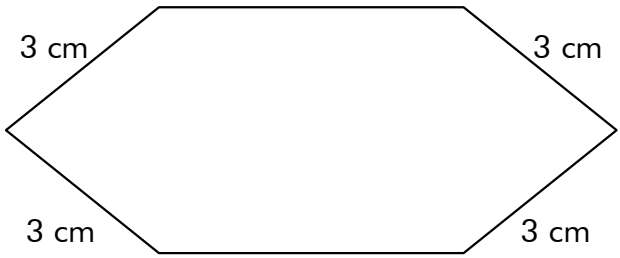
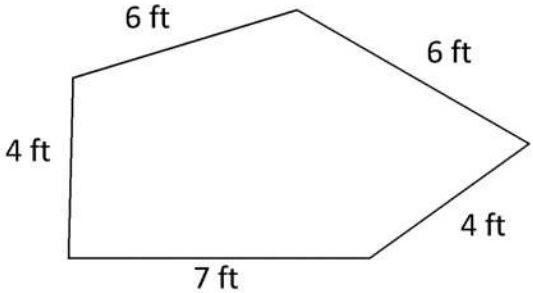

1. What is the area of rectangle whose length is 14 cm and breadth is 8 cm?
 (i) 110 sq cm (ii) 112 sq cm (iii) 121 sq cm (iv) 212 sq cm

2. What is the area of square whose each side is 18 cm?
(i) 324 sq cm (ii) 224 sq cm (iii) 234 sq cm (iv) 432 sq cm
3. What is the area of rectangle whose length is 30 cm and breadth is 5 cm?
(i) 110 sq cm (ii) 105 sq cm (iii) 150 sq cm (iv) 510 sq cm
4. What is the area of square whose each side is 32 m?
(i) 1110 sq cm (ii) 1024 sq cm (iii) 1214 sq m (iv) 1024 sq m
5. What has greater area, a square of side 12 m or a rectangle of length 4 m and breadth 2 m?
(i) Square (ii) Rectangle (iii) Equal (iv) Not equal
6. If the perimeter of square is 52 cm, then what will be each side of the square?
(i) 11 cm (ii) 12 cm (iii) 13 cm (iv) 21 cm
7. What is the breadth of rectangle whose length is 32 cm and area is 196 cm²?
(i) 66 cm (ii) 6 cm (iii) 60 cm (iv) 4 cm
8. The distance around a closed figure is called its:
(i) Area (ii) Perimeter (iii) Length (iv) Breadth
9. The length of a rectangle garden is 10 cm and its breadth is 5 cm. What is the perimeter of the garden?
(i) 25 cm (ii) 75 cm (iii) 50 cm (iv) 30 cm
10. A square has all sides equal. If the side of a square is 8 cm, what is its perimeter?
(i) 16 cm (ii) 24 cm (iii) 32 cm (iv) 40 cm

D. Fill the missing value.

1. 6 m X _____ m = 48 sq. m.
2. _____ cm X _____ cm = 25 sq. cm.
3. _____ m X 3 m = 12 sq. m.

E. Find the perimeter of following figures.

<p>1.</p>  <p>Perimeter = _____ cm</p>	<p>2.</p>  <p>Perimeter = _____ in</p>
<p>3.</p>  <p>Perimeter = _____ cm</p>	<p>4.</p>  <p>Perimeter = _____ m</p>
<p>5.</p>  <p>Perimeter = _____ cm</p>	<p>6.</p>  <p>Perimeter = _____ cm</p>
<p>7.</p>  <p>Perimeter = _____ ft</p>	<p>8.</p>  <p>Perimeter = _____ cm</p>

F. Fill in the blanks.

1. The region encompassed within a figure's borders is referred to as its _____.
2. Area of a rectangle = _____.
3. Area of a square = _____.
4. The sum of the total length of all the line segments of a simple closed figure is _____.
5. Perimeter of a rectangle = _____
6. Perimeter of a square = _____

G. Do as directed. Practice time.

1. Kavya wants to lay tiles on her rectangular kitchen floor, which measures 5 meters by 3 meters. However, there is a square table of 1 meter side in the middle of the kitchen that will not be tiled. How much area of the kitchen floor will be tiled?

Ans.

2. A square pond has a side of 12 meters. Around the pond, there is a grassy border that is 3 meters wide. Calculate the total area covered by the grass.

Ans.

3. Jatin is constructing a fence around her garden to prevent her favourite dog from escaping. What is the required fence length if the garden is 6 m broad and 9 m long? How much area does the dog have to run about in?

Ans.

4. A classroom's floor is completely covered with square tiles that each have a side length of 0.5 meters. The classroom is 8 meters long and 6 meters wide. How many tiles are there on the classroom floor?

Ans.

5. Ralphy laid out a carpet that was 6 metres long and 4 metres wide in a room that was 5 metres long and 3 metres wide. How much area of carpet won't be used?

Ans.

Answers

A.

Products	sq. cm	sq. m	sq. km
1. A football field			✓
2. A blackboard		✓	
3. Name plate	✓		
4. Ludo board	✓		
5. A temple city of India			✓
6. The door of class room		✓	
7. A tree	✓		
8. A page of your note book	✓		
9. A cellphone	✓		
10. A forest area			✓

B.

- for floor (A) = 6 tiles, floor (B) = 12 tiles
- for floor (A) = 24 sq. m., floor (B) = 48 sq. m.

C.

- 112 sq cm
- 324 sq cm
- 150 sq cm
- 1024 sq m
- Square
- 13 cm
- 6 cm
- Perimeter
- 30 cm
- 16 cm

D.

- 5
- 5, 5
- 4

E.

- The perimeter of the rectangle in the image is $2(7+2)=18$ cm.
- The perimeter of the triangle is $6 + 4 + 3 = 13$ in.
- The perimeter of the shape is $2 + 7 + 5 + 6 = 20$ cm.
- The perimeter of the shape is $7 + 10 + 11 = 28$ m.
- The perimeter of the shape is $7 + 10 + 7 + 5 = 29$ m.
- The perimeter of the Hexagon is $3 + 8 + 3 + 3 + 8 + 3 = 28$ cm.
- The perimeter is $4 + 6 + 6 + 4 + 7 = 27$ ft.
- The perimeter is $3 + 6 + 2 + 6 + 3 = 20$ cm.

F.

- Area
- Length x Width
- Side x Side
- Perimeter
- $2(\text{Length} + \text{Width})$
- $4 \times \text{Side}$

G.

- Area of the kitchen = Area of rectangle = Length \times Breadth = $5 \text{ m} \times 3 \text{ m} = 15 \text{ sq m}$
Now, Calculate the area of the table.
Area of the table = Area of a square = Side \times Side = $1 \text{ m} \times 1 \text{ m} = 1 \text{ sq m}$
Subtract the area of the table from the area of the kitchen.
Area to be tiled = Area of the kitchen - Area of the table = $15 \text{ sq m} - 1 \text{ sq m} = 14 \text{ sq. m.}$
Kavya will tile an area of **14 square meters.**

2. Area of the pond = Side \times Side = 12 m \times 12 m = 144 square meters.

Calculate the total area including the grassy border.

Total side including border = 12 m + 3 m + 3 m = 18 m (border on both sides).

Total area including border = Total side \times Total side = 18 m \times 18 m = 324 sq. m.

Area of the grass = Total area including border—Area of the pond = 324 sq m - 144 sq m
= 180 square meters.

The total area covered by the grass is **180 square meters**.

3. Fence length required = Perimeter of the garden

= 2(Length+Breadth)

= 2(6 m+ 9 m)

= 2 \times 15 m

= 30 m

Now, Area of garden that dog have to run in = 6 m \times 9 m = **54 m²**

4. Area of the classroom = Length \times Width = 8 m \times 6 m = 48 square meters.

Calculate the area of one tile.

Area of one tile = Side \times Side = 0.5 m \times 0.5 m = 0.25 square meters.

Divide the area of the classroom by the area of one tile to find the number of tiles.

Number of tiles = Area of the classroom / Area of one tile

= 48 sq m / 0.25 sq m

= 192 tiles.

There are **192 tiles** on the classroom floor.

5. Area of Carpet = length \times breadth

= 6 m \times 4 m

= 24 m²

Area of room = length \times breadth

= 5 m \times 3 m

= 15 m²

Area of carpet that is not used = 24 m² - 15 m² = **9 m²**