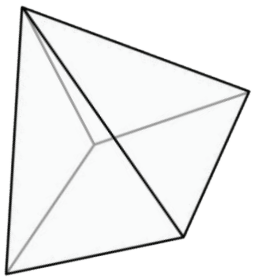
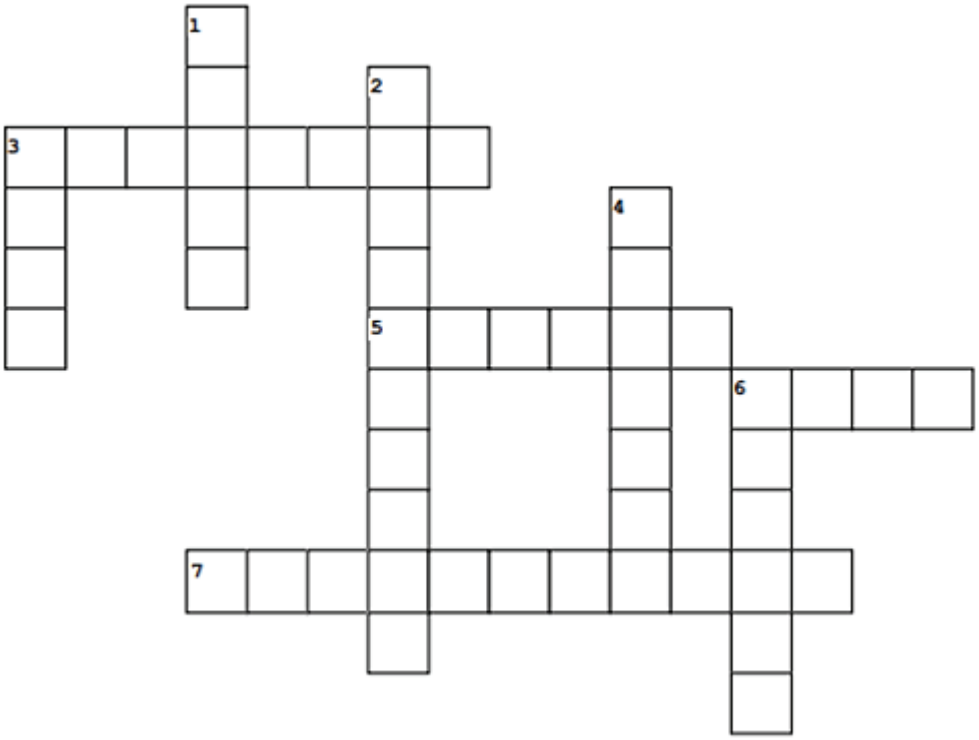
3D Shapes



How well do you know the shapes? Can you complete this crossword using the clues given below?



Across

3. has circular top and bottom

5. All points equidistant from the center

6. Has 6 square faces

7. triangular base and triangular faces meeting at apex

Down

1. two triangular bases joined by rectangular faces

2. flat circular base and every point equidistant from

the center

3. circular base with single vertex

4. outer triangular faces meet at apex

6. six rectangular faces

Answers
Down:
1. prism
2. Hemisphere
3. Cone
4. Pyramid
5. 6. Cuboid

Answers
Across:
3. Cylinder
5. Sphere
6. Cube
7. Tetrahedron

Fun with Area

Estimate the areas of the following figures if the area of one tile is 1 sq. unit

1

2

3

4

5

6

7

8

9

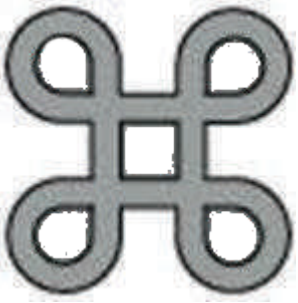
Answers

1. 9 square units.
2. 5 square units.
3. 4 square units.
4. 8 square units.
5. 10 square units.
6. 4 square units.
7. The figure contains 4 fully filled squares and 2 half-filled squares. Therefore, the area will be 5 square units
8. The figure has 5 fully filled squares, 9 more than half filled squares and 12 less than half filled squares. So estimated area is 5 + 9 = 14 sq. unit
9. The figure has 8 fully filled squares, 10 more than half filled squares and 9 less than half filled squares. So estimated area is 8 + 10 = 18 sq. unit

Lines of Symmetry

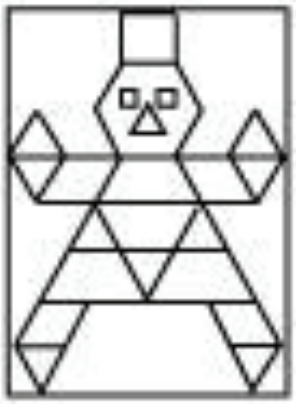
Draw and find the lined of symmetry for each of the following shapes

1

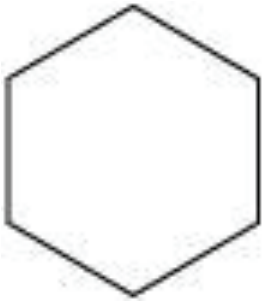


2

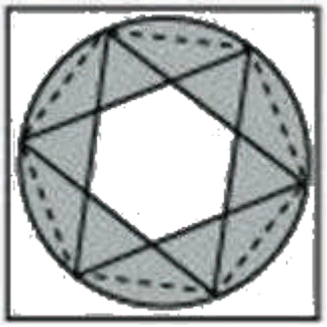
3



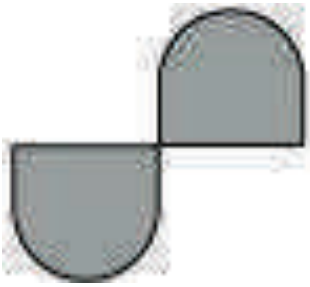
4



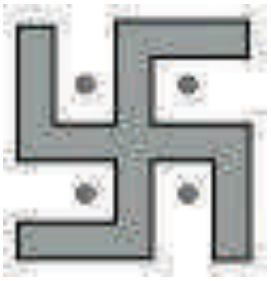
5



6



7



8

9

Answers

1. 4
2. 4
3. 4
4. 1
5. 6
6. 6
7. NO

Mensuration

Match the following

1.	Perimeter of a rectangle	a.	3 × Length of a side
2.	Perimeter of a square	b.	Length × Breadth
3.	Perimeter of an equilateral triangle	c.	8 × Length of a side
4.	Perimeter of a regular pentagon	d.	4 × Length of a side
5.	Area of a square	e.	6 × Length of a side
6.	Perimeter of a regular octagon	f.	2 × (Length + Breadth)
7.	Area of a rectangle	g.	5 × Length of a side
8.	Perimeter of a regular hexagon	h.	side × side

Fun with Area

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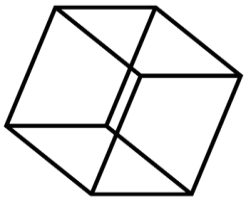
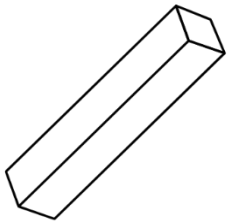
Geometry & shapes: Measure

Measure the shapes and write the area.



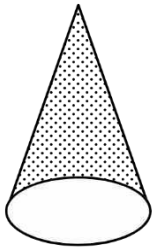
side of the square is 5cm

_____



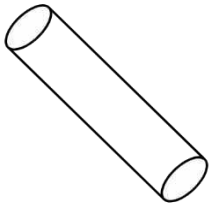
lengh is 5cm, breadth is 2 cm and height is 3cm

_____



height is 12cm, radius 5cm

_____



height is 10cm, radius 5cm

_____

base lengh is 5cm, base width is 2 cm and height is 3cm

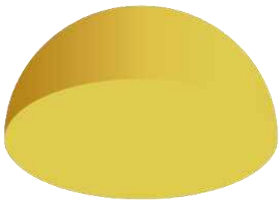
_____

Answer Key: square 150 sq.cm , cuboid 62sq.cm, cone 282.74 sq cm, cylinder 471.24 sq.cm, pyramid 33.62 sqcm

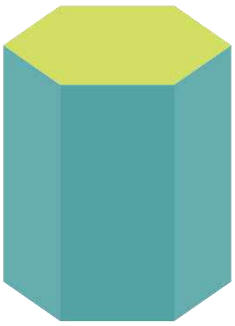
Geometry & shapes: Formula

Write the area formula for given shapes.

semi circle

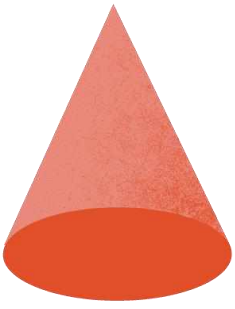


hexagonal prism



sphere

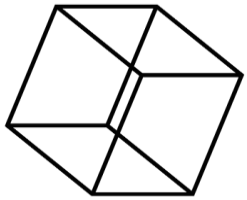
cone

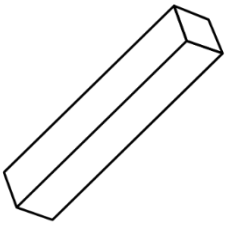


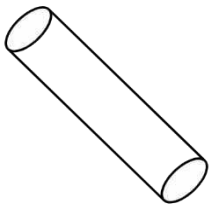
Answer Key: semicircle: A = pi * r^2/2, hexagonal prism: 6ah+3root 3a^2, sphere:4 pie r^2, cone: $\pi r(r+\sqrt{h^2+r^2})$

Geometry & shapes: Formula

Name the shapes and give their surface area formula.



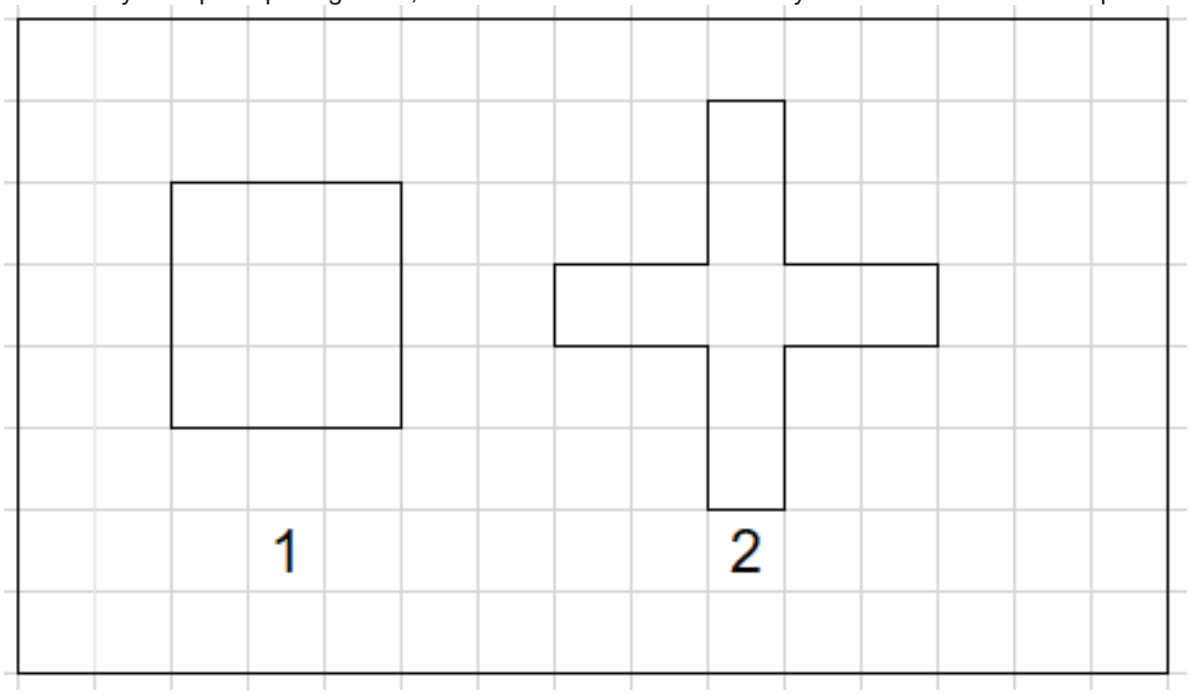




Answer Key: Cube $6a^2$, cuboid $2lw+2lh+2hw$, cylinder $2\pi rh+2\pi r^2$

Perimeter and Area

Rishab buys 9 square paving slabs, each with a side of 1/2 m. He lays them in the form of a square.



(a) What is the perimeter of his arrangement [figure (1)]?

(b) Pari does not like his arrangement. She gets him to lay them out like a cross. What is the perimeter of her arrangement [figure (2)]?

(c) Which has greater perimeter?

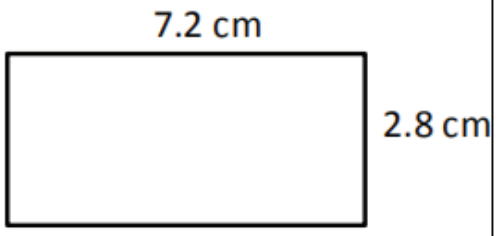
(d) Rishab wonders if there is a way of getting an even greater perimeter. Can you find a way of doing this? (The paving slabs must meet along complete edges i. e. they cannot be broken.)

Answer:
(a) 3/2 m
(b) 10 m
(c) Square
(d) Cannot be determined

Perimeter

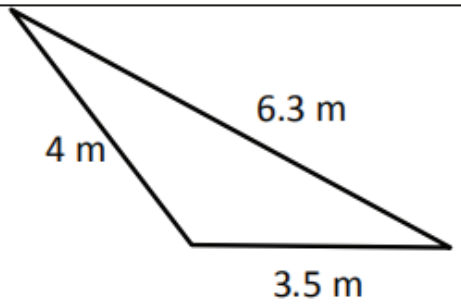
Find the perimeter of the following figures. Perimeter = Sum of all sides of a figure.

1)



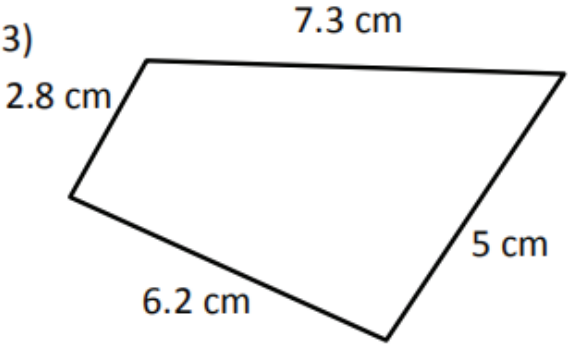
Perimeter = _____ cm

2)



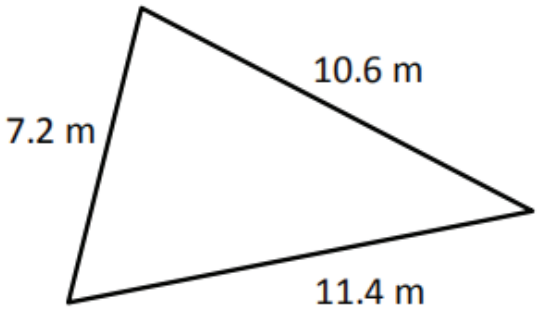
Perimeter = _____ m

3)



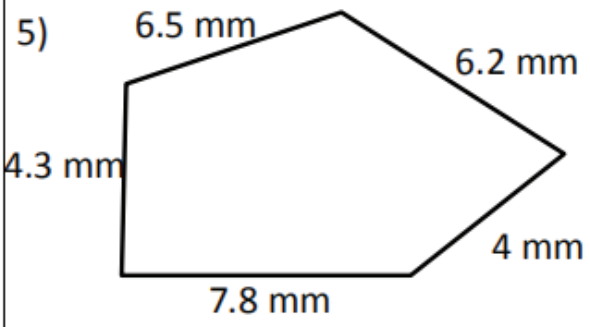
Perimeter = _____ cm

4)



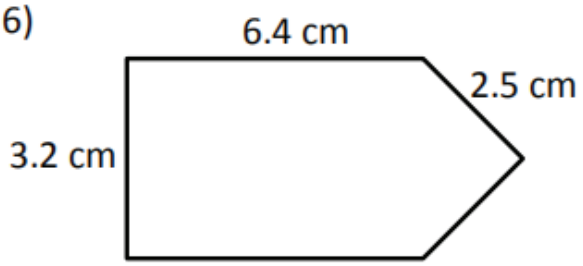
Perimeter = _____ m

5)



Perimeter = _____ mm

6)



Perimeter = _____ cm

Answers

1) 20 cm 2) 13.8 m 3) 21.3 cm

4) 29.2 m 5) 28.8 mm 6) 21 cm