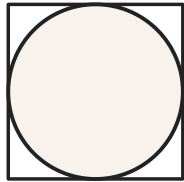


Circumference and Area of a Circle

1



The circle fits exactly inside the square.
Work out the area of the circle.
Give your answer to 1 decimal place.



12 cm

Not drawn accurately

$$\text{radius} = 12 \div 2 = 6 \text{ cm}$$

$$\pi \times 6^2$$

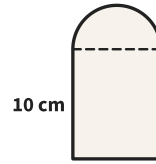
$$113.1 \text{ cm}^2$$

Answer

2



The shape is a rectangle with a semicircle on top.
Work out its perimeter. Give your answer to 1 decimal place.



10 cm

8 cm

Not drawn accurately

$$\text{curved edge} = \pi \times 8 \div 2 = 12.6$$

$$10 + 8 + 10 + 12.6$$

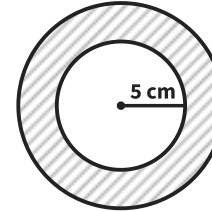
$$40.6 \text{ cm}$$

Answer

3



The shaded ring is 3 cm wide.
Work out its area. Give your answer to 1 decimal place.



5 cm

Not drawn accurately

$$\text{outer radius} = 5 + 3 = 8 \text{ cm}$$

$$\pi \times 8^2 - \pi \times 5^2$$

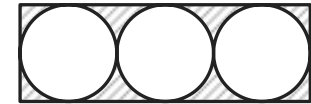
$$122.5 \text{ cm}^2$$

Answer

4



Three identical circles fit exactly inside the rectangle.
Work out the shaded area.
Give your answer to 1 decimal place.



30 cm

Not drawn accurately

$$\text{diameter} = 30 \div 3 = 10 \text{ cm}$$

$$30 \times 10 - 3 \times \pi \times 5^2$$

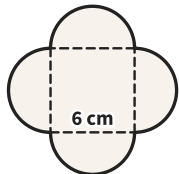
$$64.4 \text{ cm}^2$$

Answer

5



A semicircle is drawn on each side of a square.
Work out the perimeter of the shape.
Give your answer to 1 decimal place.



6 cm

Not drawn accurately

$$\text{four semicircles make two circles}$$

$$2 \times \pi \times 6$$

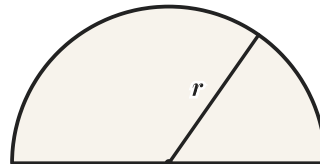
$$37.7 \text{ cm}$$

Answer

6



The perimeter of this semicircle is 36 cm.
Work out its radius r . Give your answer to 1 decimal place.



Not drawn accurately

$$\pi \times r + 2 \times r = 36$$

$$r = 36 \div (\pi + 2)$$

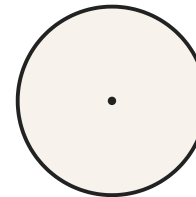
$$7.0 \text{ cm}$$

Answer

7



The circumference of this circle is 44 cm.
Work out its area. Give your answer to 1 decimal place.



Not drawn accurately

$$\text{radius} = 44 \div \pi \div 2 = 7.003 \text{ cm}$$

$$\pi \times 7.003^2$$

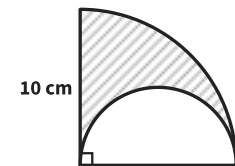
$$154.1 \text{ cm}^2$$

Answer

8



The shape is a quarter circle with a semicircle inside it.
Work out the shaded area.
Give your answer to 1 decimal place.



10 cm

Not drawn accurately

$$\text{quarter circle } \pi \times 10^2 \div 4 = 78.5$$

$$\text{semicircle } \pi \times 5^2 \div 2 = 39.3$$

$$39.3 \text{ cm}^2$$

Answer