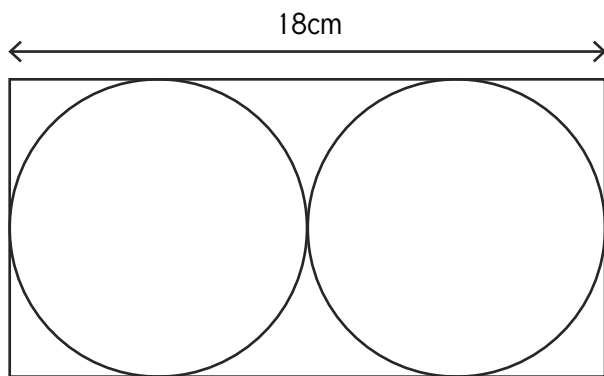




Circle Reasoning Independent Adult Guidance

Question 1

This design is made up of 2 identical circles and a rectangle. Calculate the radius of the circles.



Radius = 4.5cm

- The diameter of the circles is half of the length of the rectangle:
 $18\text{cm} \div 2 = 9\text{cm}$
- Therefore, the radius of the circles can be calculated using the formula $d \div 2 = r$
 $9\text{cm} \div 2 = 4.5\text{cm}$

Question 2

The scooter travelled from the tree to the pond turning its wheels 25 times. The circumference of the bicycle wheel is 20cm. Calculate the distance from the tree to the pond.

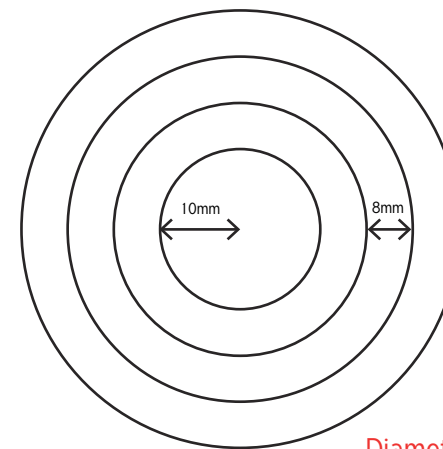


Distance = 5m

- The circumference of the wheel is 20cm and the wheels turned 25 full revolutions. Therefore, the distance can be calculated using the formula:
circumference \times revolutions = distance
 $20\text{cm} \times 25 = 500\text{cm}$ or 5m

Question 3

Calculate the diameter of the largest circle:



Diameter = 6.8cm

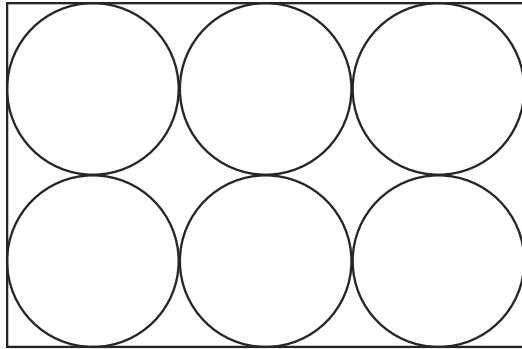
- The radius of the largest circle is:
 $10\text{mm} + (8\text{mm} \times 3)$
 $10\text{mm} + 24\text{mm} = 34\text{mm}$ or 3.4cm
- Therefore, the diameter can be calculated using the formula $r \times 2 = d$
 $34\text{mm} \times 2 = 68\text{mm}$ or 6.8cm



Circle Reasoning Independent Adult Guidance

Question 1

This design is made up of six circles, each with a radius of 14cm, inside a rectangle. Calculate the length and width of the rectangle.



Length = 84cm Width = 56cm

- The radius of the circle is 14cm. Therefore, the diameter can be calculated using the formula $r \times 2 = d$
 $14\text{cm} \times 2 = 28\text{cm}$
- The length of the rectangle is congruent to three times the diameter of the circle:
 $28\text{cm} \times 3 = 84\text{cm}$
- The width of the rectangles is congruent to twice the diameter of the circle:
 $28\text{cm} \times 2 = 56\text{cm}$

Question 2

The unicycle travelled from the sea lion to the clown turning its wheel 50 times. The circumference of the unicycle wheel is 1.43m. Calculate the distance from the seal to the clown.

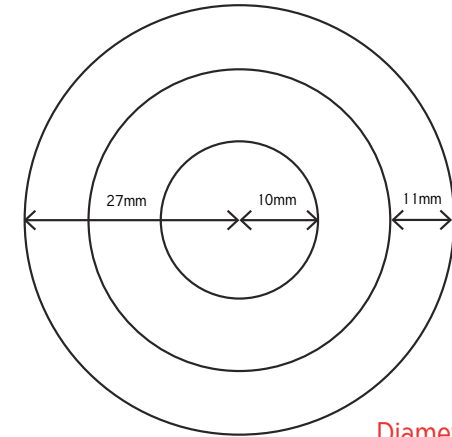


Distance = 71.5m

- The circumference of the wheel is 1.43m and the wheel turned 50 full revolutions. Therefore, the distance can be calculated using the formula:
circumference \times revolutions = distance
 $1.43\text{m} \times 50 = 71.5\text{m}$

Question 3

Calculate the diameter of the second circle:



Diameter = 3.2cm

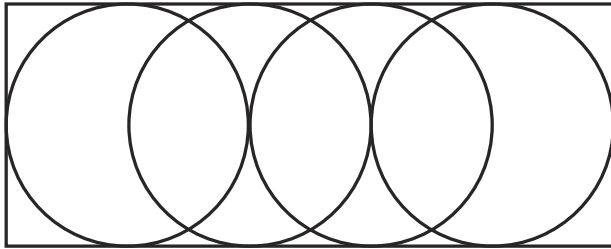
- The radius of the largest circle is 27mm and the distance from the edge of this circle to the second circle is 11mm. Therefore, the radius of the second circle can be calculated:
 $27\text{mm} - 11\text{mm} = 16\text{mm}$
- Therefore, the diameter can be calculated using the formula $r \times 2 = d$
 $16\text{mm} \times 2 = 32\text{mm}$ or 3.2cm



Circle Reasoning Independent Adult Guidance

Question 1

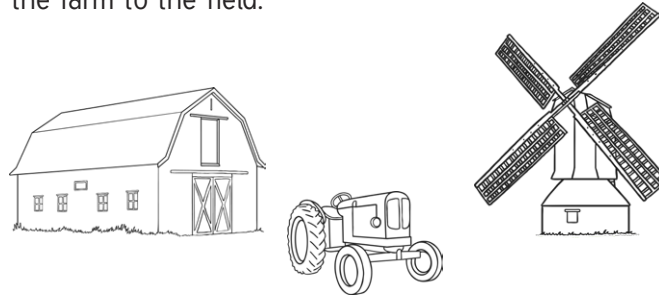
This design is made up of four intersecting circles. Each circle has a diameter of 9cm. Calculate the length, width and area of the rectangle.



Width = 9cm Length = 22.5cm Area = 202.5cm²

Question 2

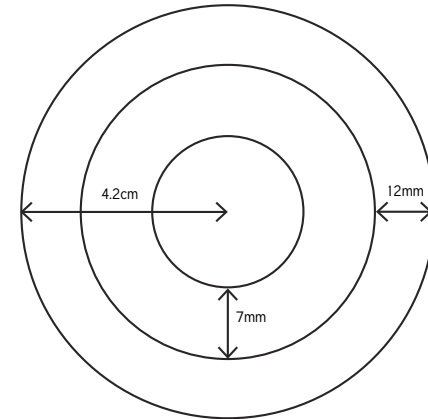
The tractor travelled from the barn to the windmill turning its wheels 75 times. The circumference of the big tractor wheel is 2.05m. Calculate the distance from the farm to the field.



Distance = 153.75m

Question 3

Calculate the diameter of the smallest circle:



Diameter = 4.6cm

- The diameter of the circle is 9cm.
- The length of the rectangle is congruent to two and a half times the diameter of the circle:
 $9\text{cm} \times 2.5 = 22.5\text{cm}$

The width of the rectangles is congruent to the diameter of the circle which is 9cm.

- The area of the rectangle can be calculated using the formula:
length \times width = area
 $22.5\text{cm} \times 9\text{cm} = 202.5\text{cm}^2$

- The circumference of the wheel is 2.05m and the wheel turned 75 full revolutions. Therefore, the distance can be calculated using the formula:
circumference \times revolutions = distance
 $2.05\text{m} \times 75 = 153.75\text{m}$

- The radius of the largest circle is 4.2cm and the distance from the edge of this circle to the smallest circle can be calculated and then subtracted from the large circle to identify the radius of the small circle:
 $4.2\text{cm} - (12\text{mm} + 7\text{mm})$
 $42\text{mm} - 19\text{mm} = 23\text{mm}$
- The diameter of the smallest circle can then be calculated using the formula:
 $r \times 2 = d$
 $23\text{mm} \times 2 = 46\text{mm}$ or 4.6cm