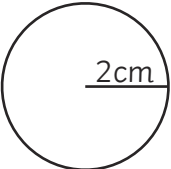
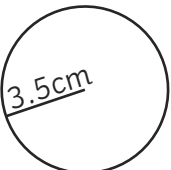


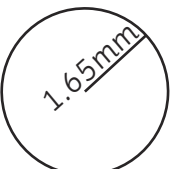
Circles Area Answers

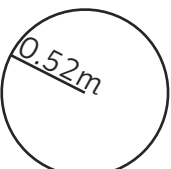
1. Calculate the area of each circle, rounding your answers to one decimal place.

a)  $\pi \times 8^2 = 201.1\text{cm}^2$

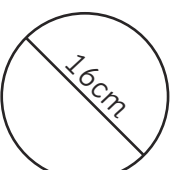
b)  $\pi \times 2^2 = 12.6\text{cm}^2$

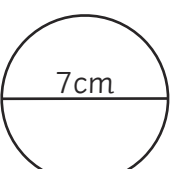
c)  $\pi \times 3.5^2 = 38.5\text{cm}^2$

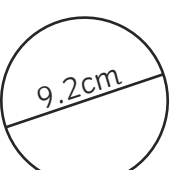
d)  $\pi \times 1.65^2 = 8.6\text{mm}^2$

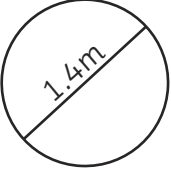
e)  $\pi \times 0.52^2 = 0.8\text{m}^2$


2. Calculate the area of each circle, rounding your answers to one decimal place.

a)  $\pi \times 8^2 = 201.1\text{cm}^2$

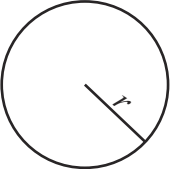
b)  $\pi \times 3.5^2 = 38.5\text{cm}^2$

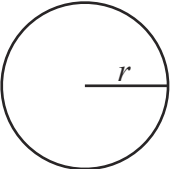
c)  $\pi \times 4.6^2 = 66.5\text{cm}^2$

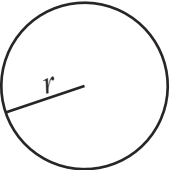
d)  $\pi \times 0.7^2 = 1.5\text{m}^2$

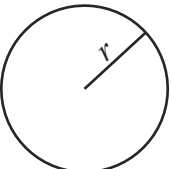
e)  $\pi \times 1.015^2 = 3.2\text{mm}^2$

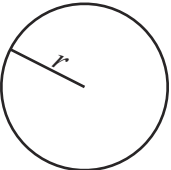
3. Calculate the length of the radius of each circle, rounding your answers to one decimal place.

a)  Area = 20cm^2 $r = \sqrt{\frac{20}{\pi}} = 2.5\text{cm}$

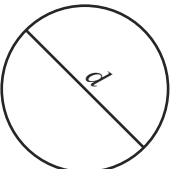
b)  Area = 50cm^2 $r = \sqrt{\frac{50}{\pi}} = 4.0\text{cm}$

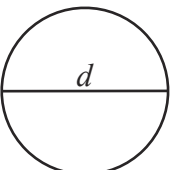
c)  Area = 75cm^2 $r = \sqrt{\frac{75}{\pi}} = 4.9\text{cm}$

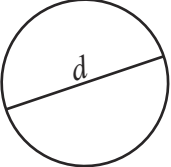
d)  Area = 6.2m^2 $r = \sqrt{\frac{6.2}{\pi}} = 1.4\text{m}$

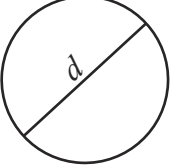
e)  Area = 150.3mm^2 $r = \sqrt{\frac{150.3}{\pi}} = 6.9\text{mm}$

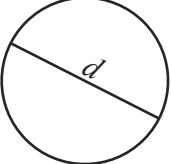
4. Calculate the length of the diameter of each circle, rounding your answers to one decimal place.

a)  Area = 10cm^2 $d = 2\sqrt{\frac{10}{\pi}} = 3.6\text{cm}$

b)  Area = 140cm^2 $d = 2\sqrt{\frac{140}{\pi}} = 13.4\text{cm}$

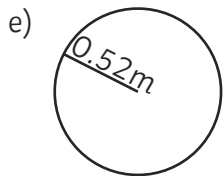
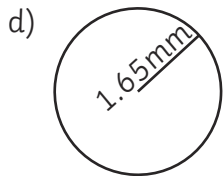
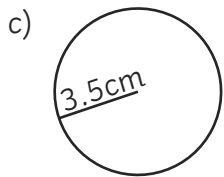
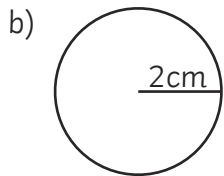
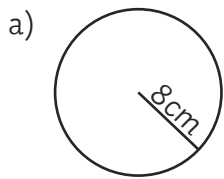
c)  Area = 235cm^2 $d = 2\sqrt{\frac{235}{\pi}} = 17.3\text{cm}$

d)  Area = 70.5mm^2 $d = 2\sqrt{\frac{70.5}{\pi}} = 9.5\text{mm}$

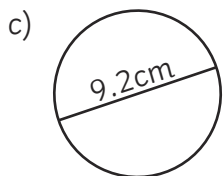
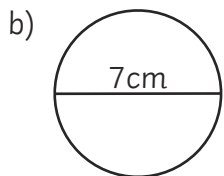
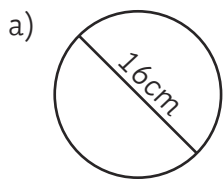
e)  Area = 0.8m^2 $d = 2\sqrt{\frac{0.8}{\pi}} = 1.0\text{m}$

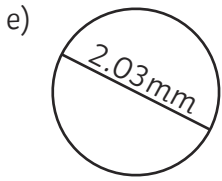
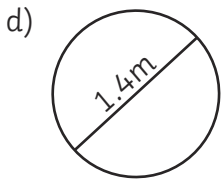
Circles Area

1. Calculate the area of each circle, rounding your answers to one decimal place.

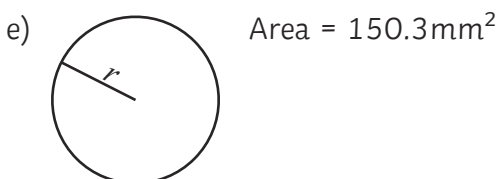
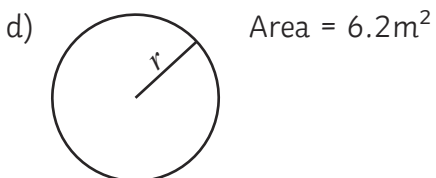
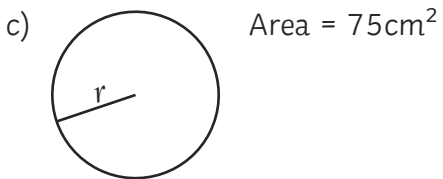
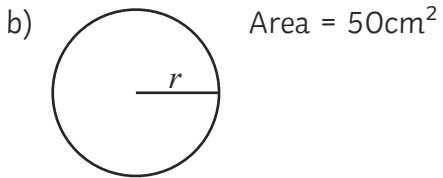
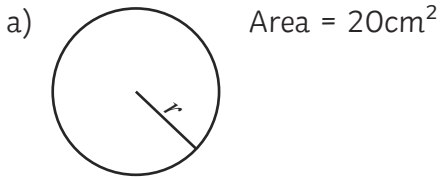


2. Calculate the area of each circle, rounding your answers to one decimal place.

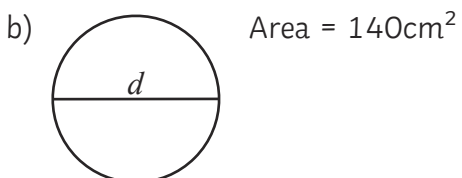
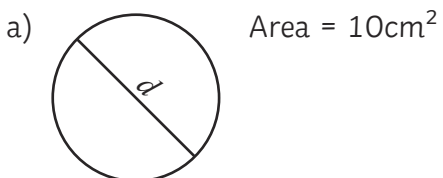


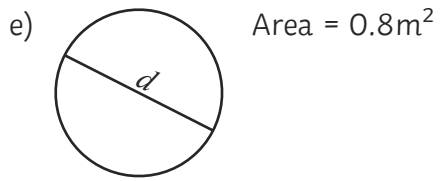
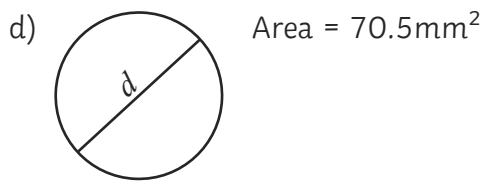
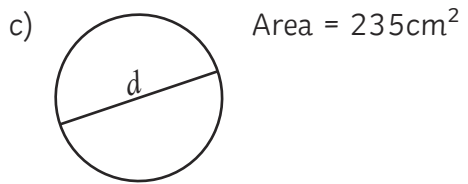


3. Calculate the length of the radius of each circle, rounding your answers to one decimal place.



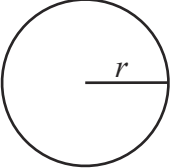
4. Calculate the length of the diameter of each circle, rounding your answers to one decimal place.

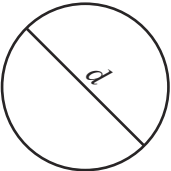


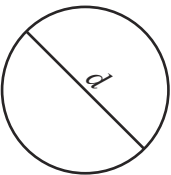


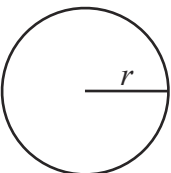
Circles Area Answers

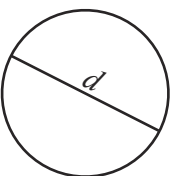
1. Calculate the length of the diameter or radius of each circle, rounding your answers to two significant figures.

a)  Area = 15cm^2 $r = \sqrt{\frac{15}{\pi}} = 2.2\text{cm}$

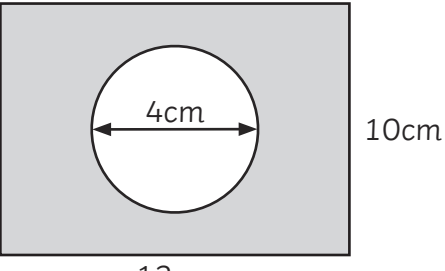
b)  Area = 12cm^2 $d = 2\sqrt{\frac{12}{\pi}} = 3.9\text{cm}$

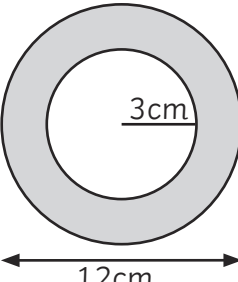
c)  Area = 70.1cm^2 $d = 2\sqrt{\frac{70.1}{\pi}} = 9.4\text{cm}$

d)  Area = 199.6m^2 $r = \sqrt{\frac{199.6}{\pi}} = 8.0\text{m}$

e)  Area = 75.15mm^2 $d = 2\sqrt{\frac{75.15}{\pi}} = 9.8\text{mm}$

2. Calculate the shaded area of the following shapes, rounding your answers to two decimal places.

a) 
 Area of rectangle = $12 \times 10 = 120\text{cm}^2$
 Area of circle = $\pi \times 2^2 = 12.566\dots$
 Shaded area = $120 - 12.566 = 107.43\text{cm}^2$

b) 
 $(\pi R^2) - (\pi r^2)$
 $(\pi \times 6^2) - (\pi \times 3^2) = 84.82\text{cm}^2$

3. A trundle wheel is a device used to measure distance. Each revolution of the wheel measures a distance of 1m. Calculate the area, in centimetres squared, of the wheel, rounding your answer to one decimal place.

$$1\text{m} = 100\text{cm}$$

$$\text{Radius} = \frac{100}{2\pi} = 15.9154\dots\text{cm}$$

$$\text{Area} = \pi \times 15.9154^2 = 795.8\text{cm}^2$$

4. A 2 pence coin has a diameter of 26mm. A 5 pence coin has a radius of 0.85cm. Calculate the total area, in centimetres squared, of 19 pence using only 5 pence and 2 pence coins. (You must use more 5p coins than 2p coins.) Leave your answer in terms of π and round the coefficient of π to three significant figures.

$$26\text{mm} = 2.6\text{cm}$$

$$19\text{p} = 3 \times 5\text{p} \text{ and } 2 \times 2\text{p}$$

$$\text{Area } 5\text{p}: 3 \times \pi \times 0.85^2 = 2.1675\pi$$

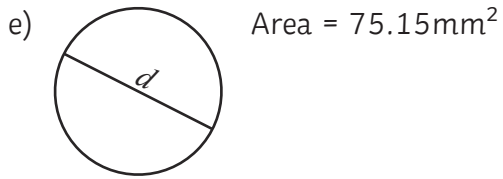
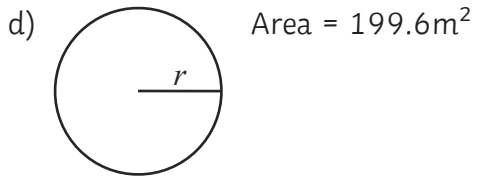
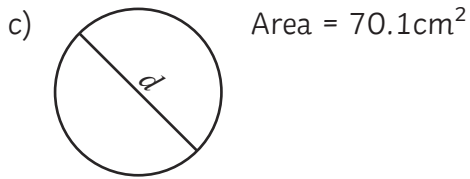
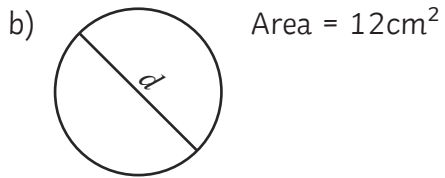
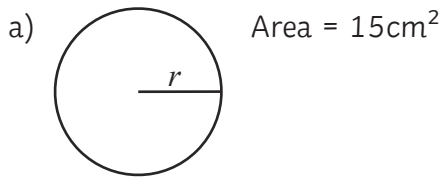
$$\text{Area } 2\text{p}: 2 \times \pi \times 1.3^2 = 3.38\pi$$

$$\text{Total area of } 19\text{p} = 5.55\pi\text{cm}^2$$

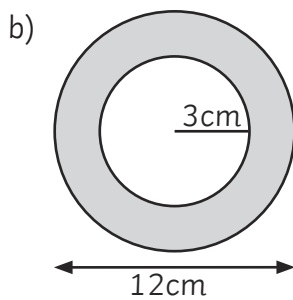
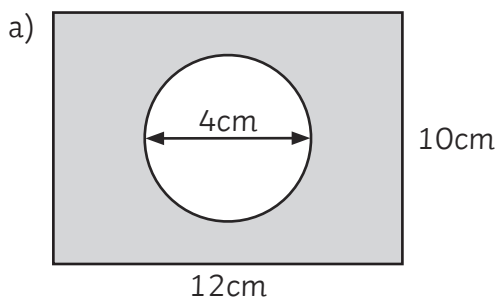
$$\text{Total area of } 19\text{p} = 12.6\pi\text{cm}^2$$

Circles Area

1. Calculate the length of the diameter or radius of each circle, rounding your answers to two significant figures.



2. Calculate the shaded area of the following shapes, rounding your answers to two decimal places.




3. A trundle wheel is a device used to measure distance. Each revolution of the wheel measures a distance of 1m. Calculate the area, in centimetres squared, of the wheel, rounding your answer to one decimal place.

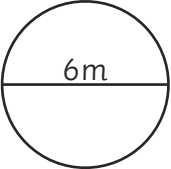
_____cm

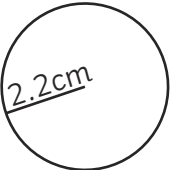
4. A 2 pence coin has a diameter of 26mm. A 5 pence coin has a radius of 0.85cm. Calculate the total area, in centimetres squared, of 19 pence using only 5 pence and 2 pence coins. (You must use more 5p coins than 2p coins.) Leave your answer in terms of π and round the coefficient of π to three significant figures.

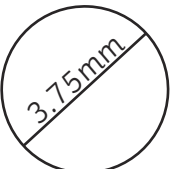
Circles Area Answers

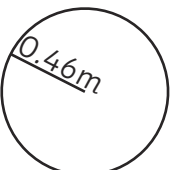
1. Calculate the area of each circle, rounding your answers to two decimal places.

a)  $\pi \times 10^2 = 314.16\text{cm}^2$

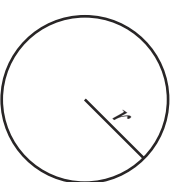
b)  $\pi \times 3^2 = 28.27\text{cm}^2$

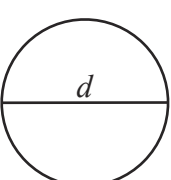
c)  $\pi \times 2.2^2 = 15.21\text{cm}^2$

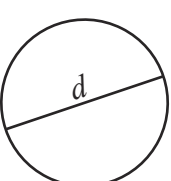
d)  $\pi \times 1.875^2 = 11.04\text{mm}^2$

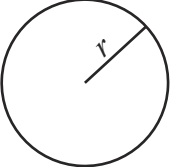
e)  $\pi \times 0.46^2 = 0.66\text{m}^2$

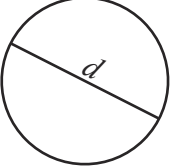
2. Calculate the length of the diameter or radius of each circle, rounding your answer to one decimal place.

a)  Area = 20cm^2 $r = \sqrt{\frac{20}{\pi}} = 2.5\text{cm}$

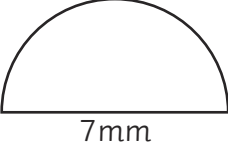
b)  Area = 9cm^2 $d = 2\sqrt{\frac{9}{\pi}} = 3.4\text{cm}$

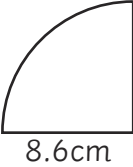
c)  Area = 50.2cm^2 $d = 2\sqrt{\frac{50.2}{\pi}} = 8.0\text{cm}$

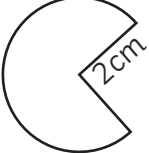
d)  Area = 99.4m^2 $r = \sqrt{\frac{99.4}{\pi}} = 5.6\text{cm}$

e)  Area = 15.35mm^2 $d = 2\sqrt{\frac{15.35}{\pi}} = 4.4\text{mm}$

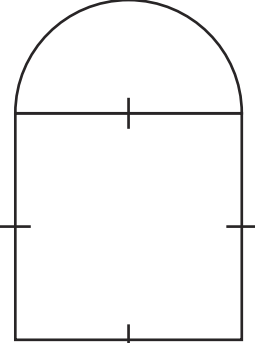
3. Calculate the area of each shape, rounding your answer to three significant places.

a)  $\frac{\pi \times 3.5^2}{2} = 19.2\text{mm}^2$

b)  $\frac{\pi \times 8.6^2}{4} = 58.1\text{cm}^2$

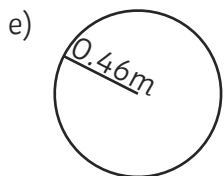
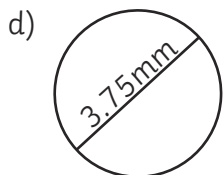
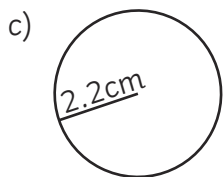
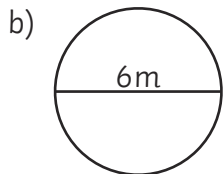
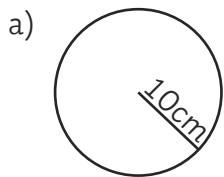
c)  $\frac{3}{4} \times \pi \times 2^2 = 9.42\text{cm}^2$

4. A feature door in a museum needs painting. Calculate the area of the door, stating your units and rounding your answer to the nearest whole number.

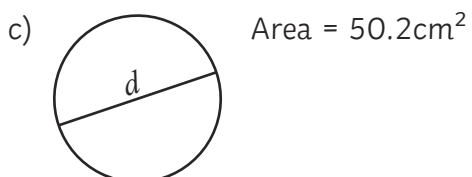
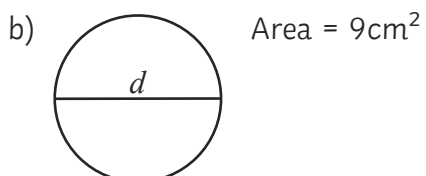
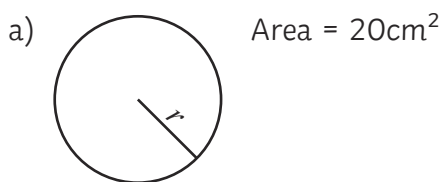
 $\frac{\pi \times 5^2}{2} + 10^2 = 139\text{m}^2$

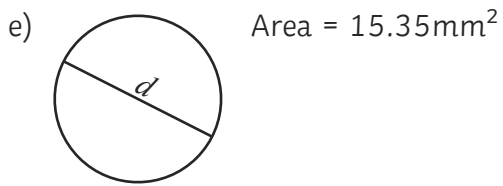
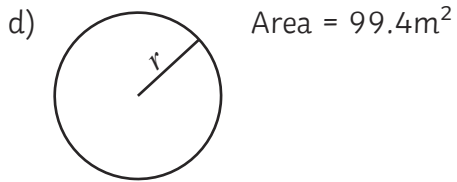
Circles Area

1. Calculate the area of each circle, rounding your answers to two decimal places.

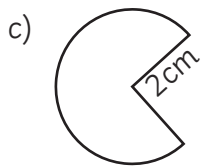
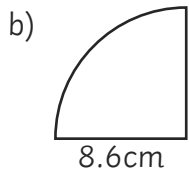
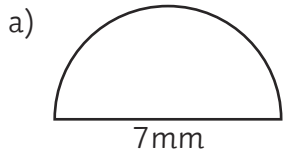


2. Calculate the length of the diameter or radius of each circle, rounding your answer to one decimal place.

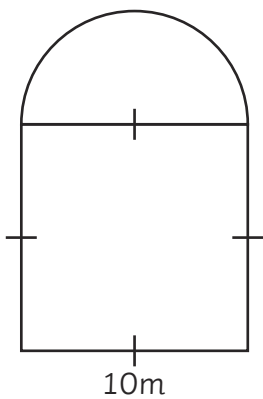




3. Calculate the area of each shape, rounding your answer to three significant places.




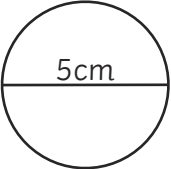
4. A feature door in a museum needs painting. Calculate the area of the door, stating your units and rounding your answer to the nearest whole number.

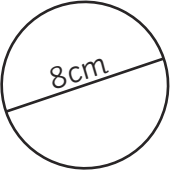


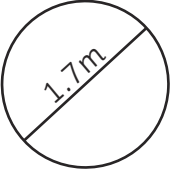
Circles Circumference Answers


1. Calculate the length of the circumference of each circle, rounding your answers to one decimal place:

a)  $\pi \times 10 = 31.4\text{cm}$


b)  $\pi \times 5 = 15.7\text{cm}$

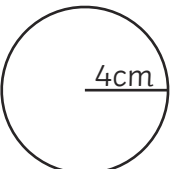
c)  $\pi \times 8 = 25.1\text{cm}$

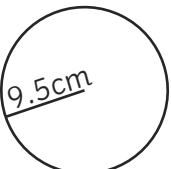
d)  $\pi \times 1.7 = 5.3\text{m}$


e)  $\pi \times 12.06 = 37.9\text{mm}$

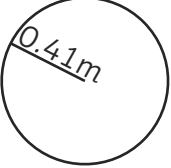
2. Calculate the length of the circumference of each circle, rounding your answer to one decimal place:

a)  $2\pi \times 10 = 62.8\text{cm}$

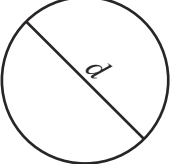
b)  $2\pi \times 4 = 25.1\text{cm}$

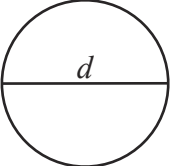
c)  $2\pi \times 9.5 = 59.7\text{cm}$

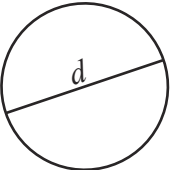
d)  $2\pi \times 2.75 = 17.3\text{mm}$

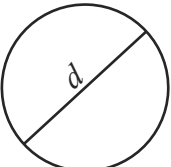
e)  $2\pi \times 0.41 = 2.6\text{m}$

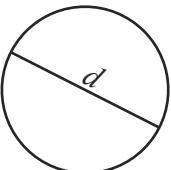
3. Calculate the length of the diameter of each circle, rounding your answer to one decimal place:

a)  Circumference = 30cm $d = \frac{30}{\pi} = 9.5\text{cm}$

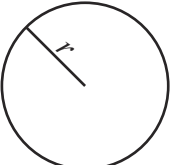
b)  Circumference = 124cm $d = \frac{124}{\pi} = 39.5\text{cm}$

c)  Circumference = 227.2cm $d = \frac{227.2}{\pi} = 72.3\text{cm}$

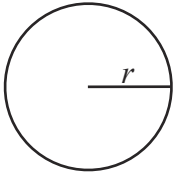
d)  Circumference = 55mm $d = \frac{55}{\pi} = 17.5\text{mm}$

e)  Circumference = 12.65m $d = \frac{12.65}{\pi} = 4.0\text{m}$

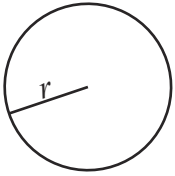
4. Calculate the length of the radius of each circle, rounding your answer to one decimal place:

a)  Circumference = 50cm $r = \frac{50}{2\pi} = 8.0\text{cm}$

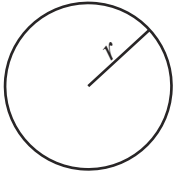
b) Circumference = 55cm $r = \frac{55}{2\pi} = 8.8\text{cm}$



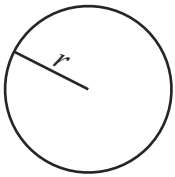
c) Circumference = 120cm $r = \frac{120}{2\pi} = 19.1\text{cm}$



d) Circumference = 5.7m $r = \frac{5.7}{2\pi} = 0.9\text{m}$

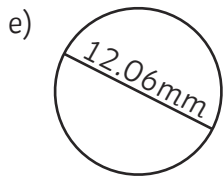
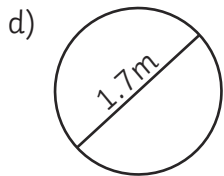
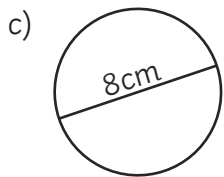
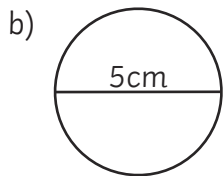
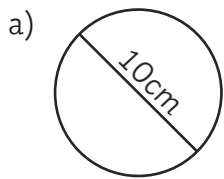


e) Circumference = 152.6mm $r = \frac{152.6}{2\pi} = 24.3\text{mm}$

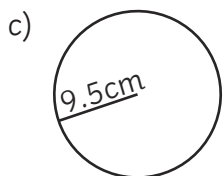
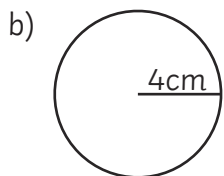
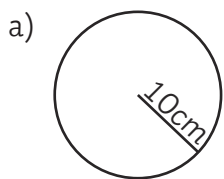


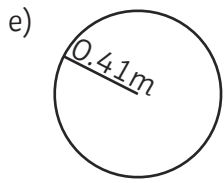
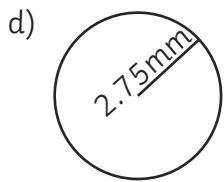
Circles Circumference

1. Calculate the length of the circumference of each circle, rounding your answers to one decimal place:

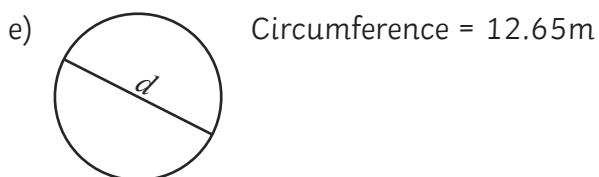
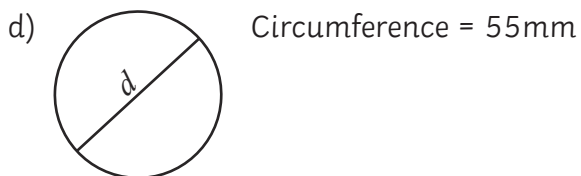
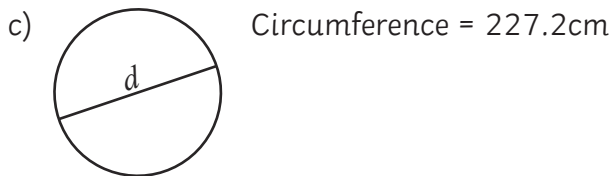
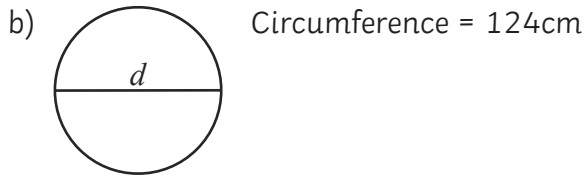
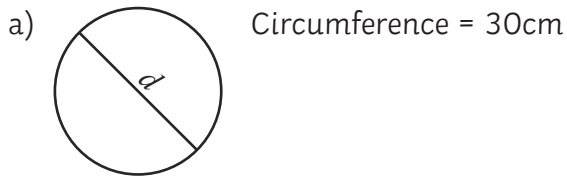


2. Calculate the length of the circumference of each circle, rounding your answer to one decimal place:

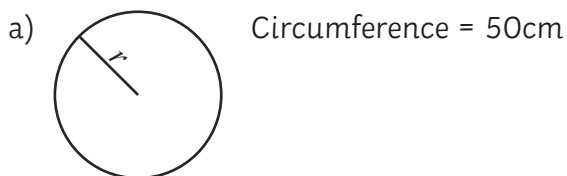


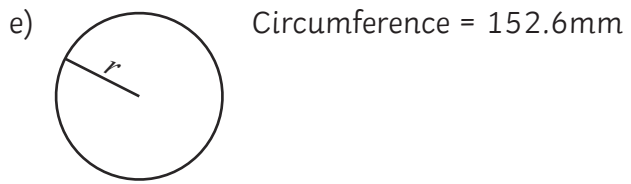
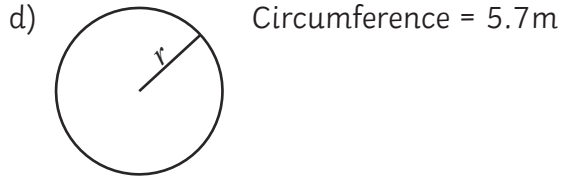
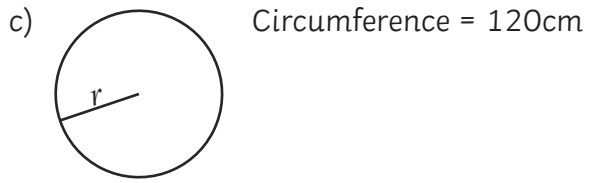
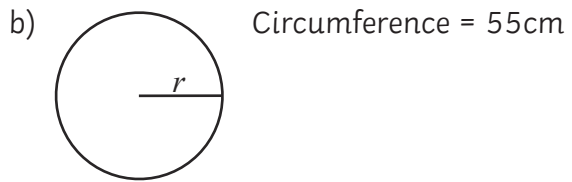


3. Calculate the length of the diameter of each circle, rounding your answer to one decimal place:



4. Calculate the length of the radius of each circle, rounding your answer to one decimal place:

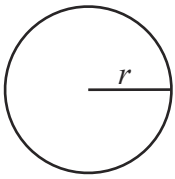




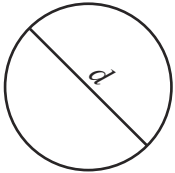
Circles Circumference Answers

1. Calculate the length of the diameter or radius of each circle, rounding your answers to two significant figures.

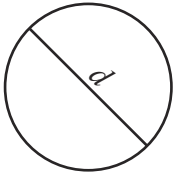
a) circumference = 29.4cm $r = \frac{29.4}{2\pi} = 4.7\text{cm}$



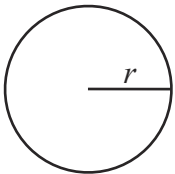
b) circumference = 155cm $d = \frac{155}{\pi} = 49\text{cm}$



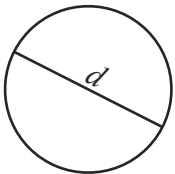
c) circumference = 265.4cm $d = \frac{265.4}{\pi} = 84\text{cm}$



d) circumference = 15.6mm $r = \frac{15.6}{2\pi} = 2.5\text{mm}$

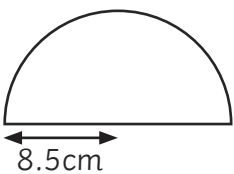


e) circumference = 99.9m $d = \frac{99.9}{\pi} = 32\text{m}$

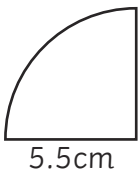


2. Calculate the perimeter of each shape, rounding your answers to one decimal place.

a) $\frac{\pi \times 8.5 \times 2}{2} + 8.5 + 8.5 = 43.7\text{cm}$



b) $\frac{\pi \times 5.5 \times 2}{4} + 5.5 + 5.5 = 19.6\text{cm}$



c) $\frac{3}{4} \times (\pi \times 0.5 \times 2) + 0.5 + 0.5 = 3.4\text{cm}$

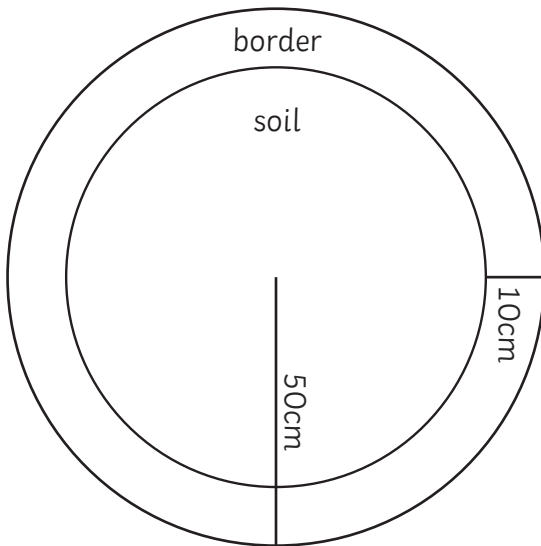


3. A trundle wheel is a device used to measure distance. Each revolution of the wheel measures a distance of 1m. Calculate the radius, in centimetres, of the wheel, rounding your answer to one decimal place.

$$1\text{m} = 100\text{cm}$$

$$\text{radius} = \frac{100}{2\pi} = 15.9\text{cm}$$

4. A flower bed has a circular stone border. Joanna wants to plant a daffodil bulb every 200mm along the inside edge of the border. She says she can plant 15 bulbs. Prove that she is incorrect and state the maximum number of bulbs that she can plant.



$$\text{Diameter of soil} = (50 - 10) \times 2 = 80\text{cm}$$

$$\text{Circumference of soil} = 80 \times \pi = 251.327\dots\text{cm}$$

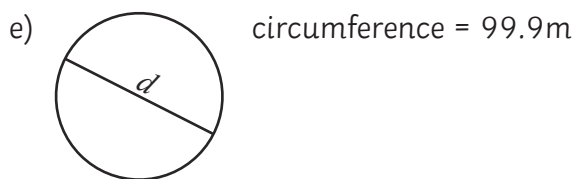
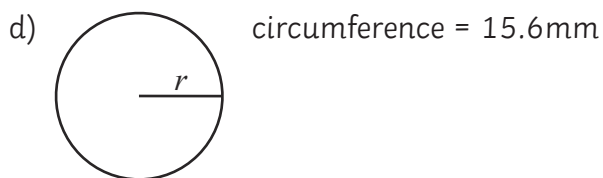
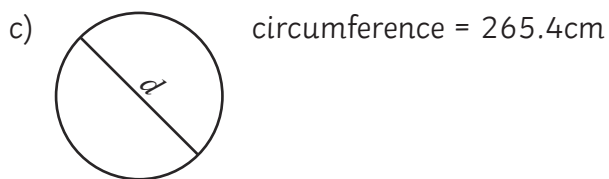
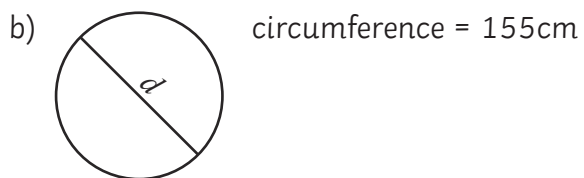
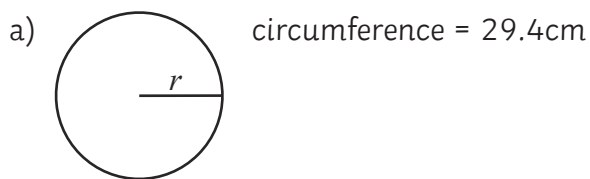
$$200\text{mm} = 20\text{cm}$$

$$\text{Number of spaces for bulbs} = \frac{251.327}{20} = 12.57\dots$$

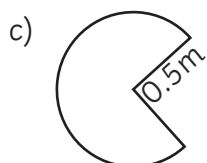
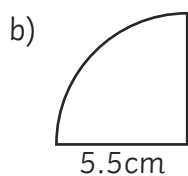
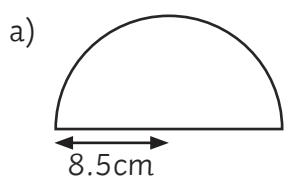
So she only has enough room for a maximum of 12 bulbs.

Circles Circumference

1. Calculate the length of the diameter or radius of each circle, rounding your answers to two significant figures.



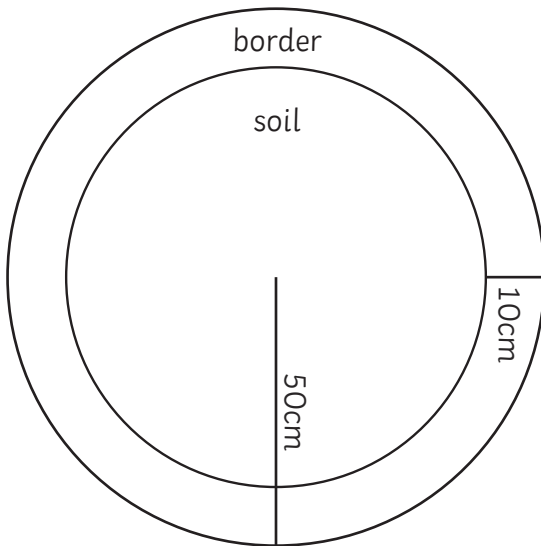
2. Calculate the perimeter of each shape, rounding your answers to one decimal place.



3. A trundle wheel is a device used to measure distance. Each revolution of the wheel measures a distance of 1m. Calculate the radius, in centimetres, of the wheel, rounding your answer to one decimal place.

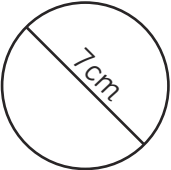
_____cm

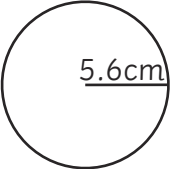
4. A flower bed has a circular stone border. Joanna wants to plant a daffodil bulb every 200mm along the inside edge of the border. She says she can plant 15 bulbs. Prove that she is incorrect and state the maximum number of bulbs that she can plant.

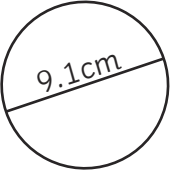


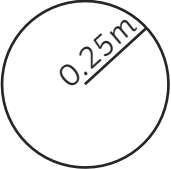
Circles Circumference Answers

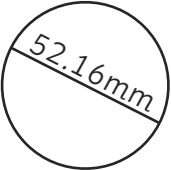
1. Calculate the length of the circumference of each circle, rounding your answers to two decimal places:

a)  $\pi \times 7 = 21.99\text{cm}$

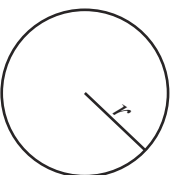
b)  $2\pi \times 5.6 = 35.19\text{cm}$

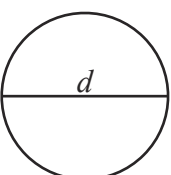
c)  $\pi \times 9.1 = 28.59\text{cm}$

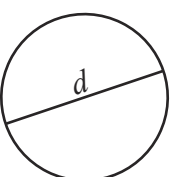
d)  $2\pi \times 0.25 = 1.57\text{m}$

e)  $\pi \times 52.16 = 163.87\text{ mm}$

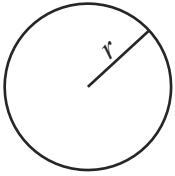
2. Calculate the length of the diameter or radius of each circle, rounding your answer to one decimal place:

a)  Circumference = 28cm $r = \frac{28}{2\pi} = 4.5\text{cm}$

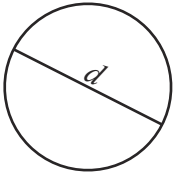
b)  Circumference = 150cm $d = \frac{150}{\pi} = 47.7\text{cm}$

c)  Circumference = 375.4cm $d = \frac{375.4}{\pi} = 119.5\text{cm}$

d) Circumference = 75.6mm $r = \frac{75.6}{2\pi} = 12.0\text{mm}$

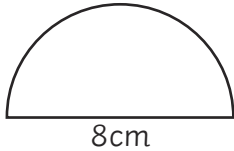


e) Circumference = 104.3m $d = \frac{104.3}{\pi} = 33.2\text{m}$

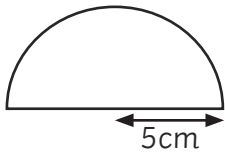


3. Calculate the perimeter of each shape, rounding your answers to one decimal place.

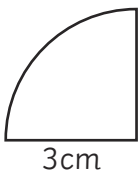
a) $\frac{\pi \times 8}{2} + 8 = 20.6\text{cm}$



b) $\frac{\pi \times 5 \times 2}{2} + 5 + 5 = 25.7\text{cm}$



c) $\frac{\pi \times 3 \times 2}{4} + 3 + 3 = 10.7\text{cm}$



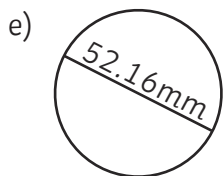
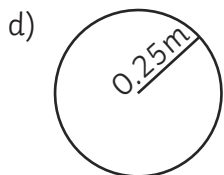
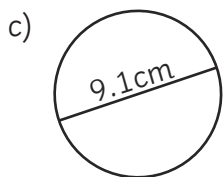
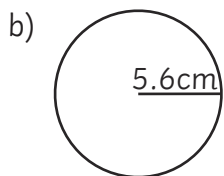
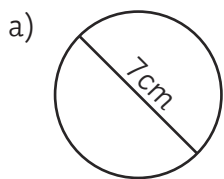
4. A trundle wheel is a device used to measure distance. Each revolution of the wheel measures a distance of 1m. Calculate the diameter, in centimetres, of the wheel, rounding your answer to two decimal places.

$1\text{m} = 100\text{cm}$

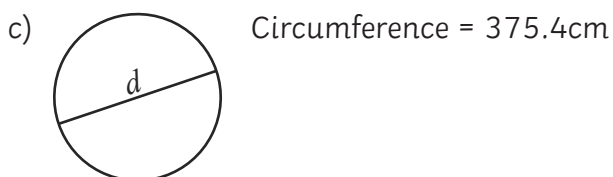
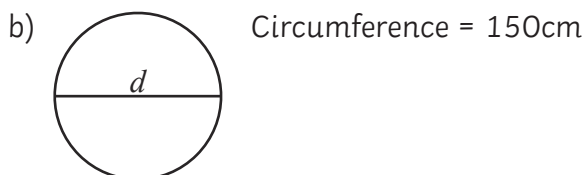
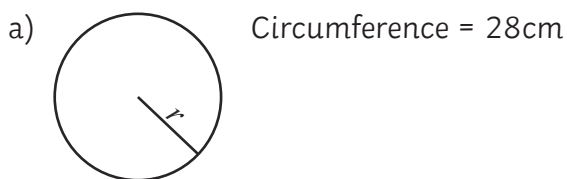
$d = \frac{100}{\pi} = 31.83\text{cm}$

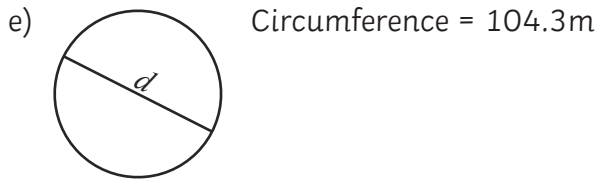
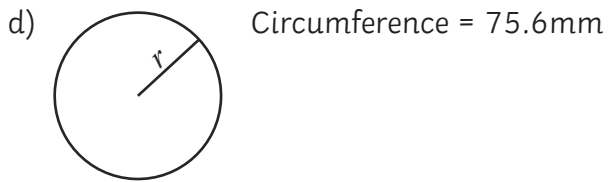
Circles Circumference

1. Calculate the length of the circumference of each circle, rounding your answers to two decimal places:

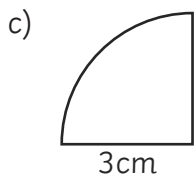
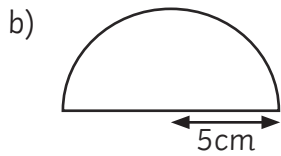
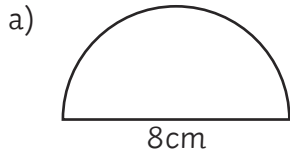


2. Calculate the length of the diameter or radius of each circle, rounding your answer to one decimal place:





3. Calculate the perimeter of each shape, rounding your answers to one decimal place.



4. A trundle wheel is a device used to measure distance. Each revolution of the wheel measures a distance of 1m. Calculate the diameter, in centimetres, of the wheel, rounding your answer to two decimal places.

_____cm