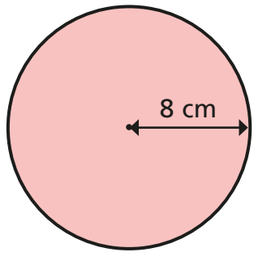
Calculate the area of a circle and parts of a circle without a calculator

1 Find the area of each circle.

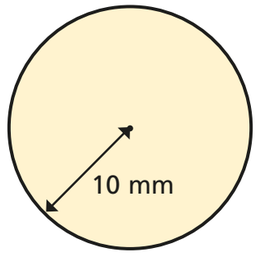
Give your answers in terms of π.

a)



area = 64π cm²

b)

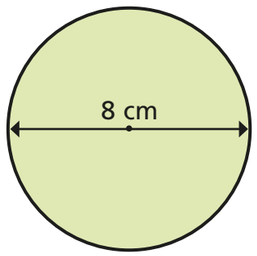


area = 100π mm²

2 Find the area of each circle.

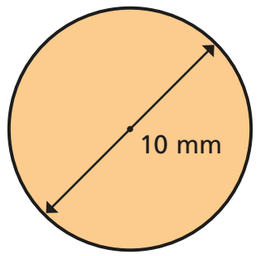
Give your answers in terms of π.

a)



area = 16π cm²

b)



area = 25π mm²

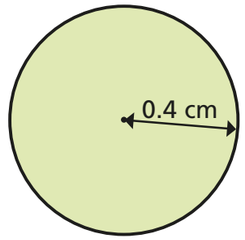
3 What was the same and what was different about question 1 and question 2?

Discuss it with a partner.

4 Find the area of each circle.

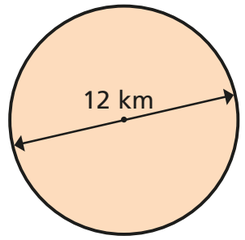
Give your answers in terms of π.

a)



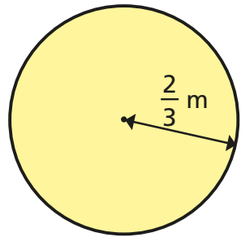
area = 0.16π cm²

b)



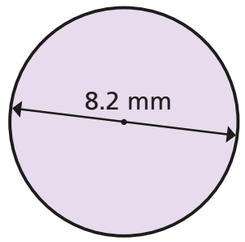
area = 36π km²

c)



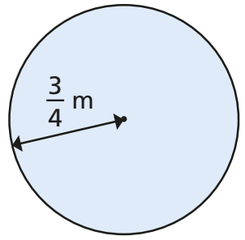
area = $\frac{4}{9}\pi$ m²

d)



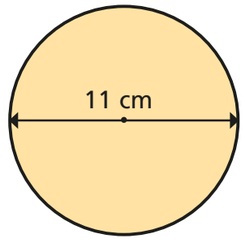
area = 16.81π mm²

e)



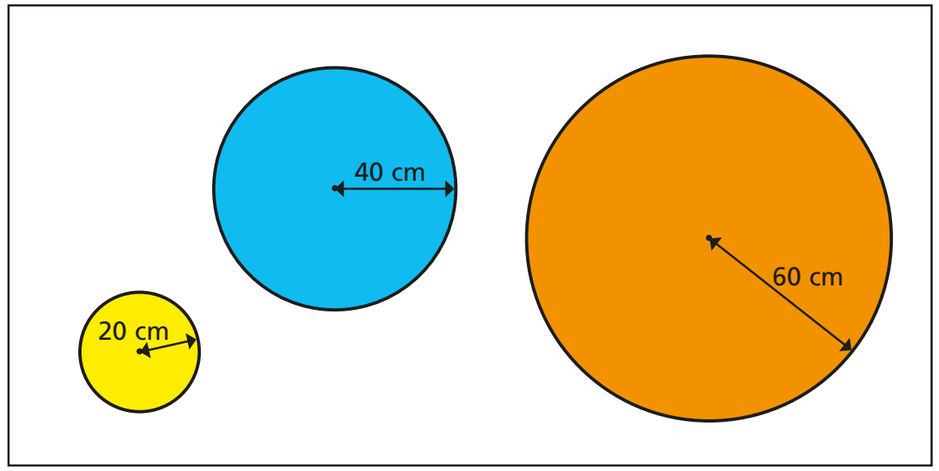
area = $\frac{9}{16}\pi$ m²

f)



area = 30.25π cm²

5 Some spots are painted on a wall.



What is the total area of the wall that is covered by paint?

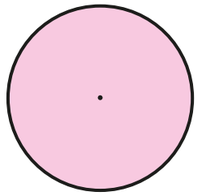
Give your answer in terms of π.

area = $5{,}600\pi$ cm²

6 **a)** Filip finds the area of the circle.

His answer is 64π cm²

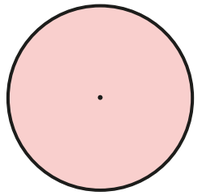
What is the radius of the circle?



radius = 8 cm

b) The area of this circle is 144π m²

What is the diameter of the circle?

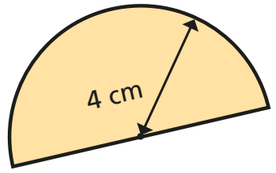


diameter = 24 m

7 Work out the area of the parts of circles.

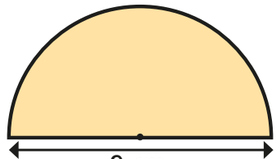
Give your answers in terms of π.

a)



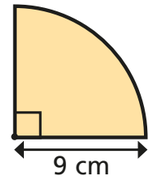
area = 8π cm²

b)



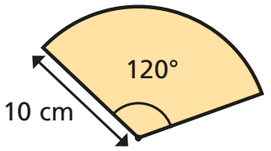
area = $\frac{81}{2}\pi$ cm²

c)



area = $\frac{81}{4}\pi$ cm²

d)



area = $\frac{100}{3}\pi$ cm²

8 The area of a semicircle is 50π cm²

What is the radius of the semicircle? 10 cm