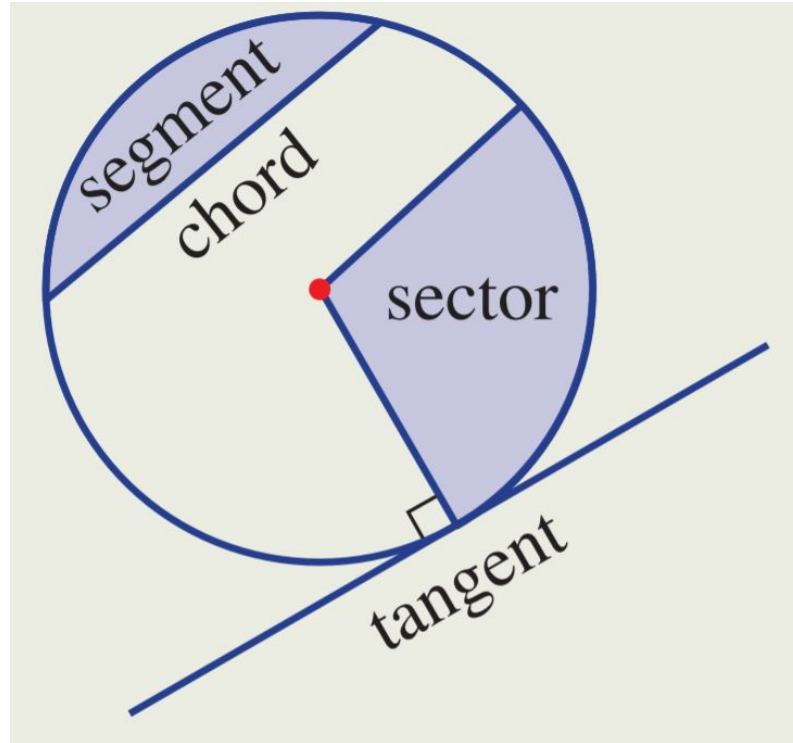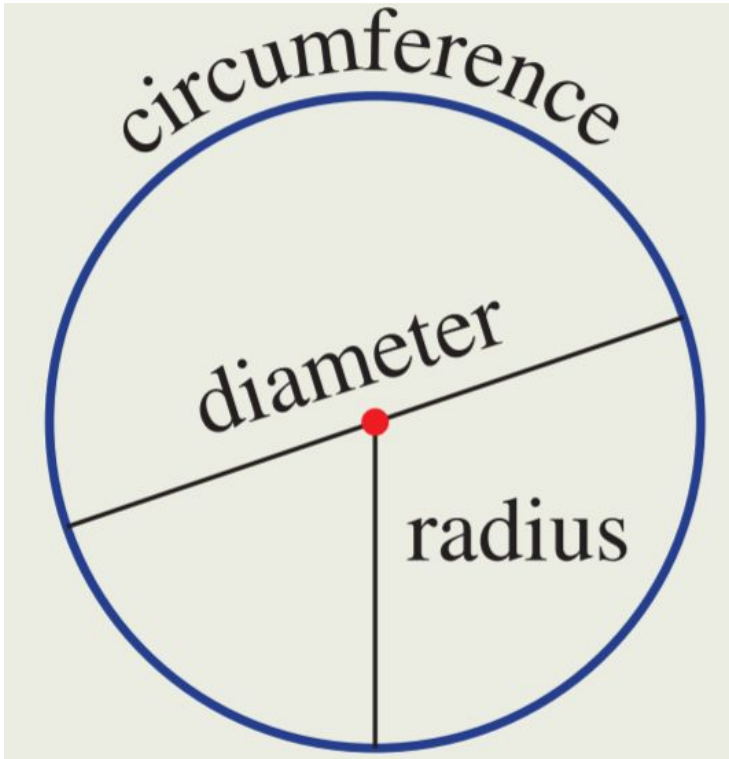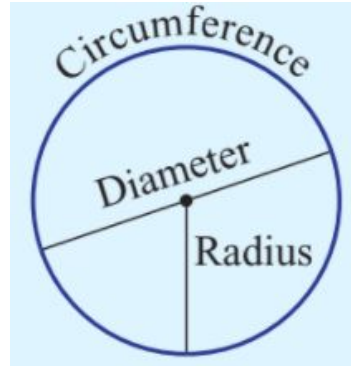# PARTS OF A CIRCLE

CIRCUMFERENCE OF A CIRCLE

- Diameter (D): the distance across the centre of a circle
- Radius (R): half of diameter
- Circumference (C): distance around the circle

For any circle, the ratio: $\dfrac{Circumference}{Diameter} = 3.1415926535...$

This number is noted π (say "pi")

$C = \pi D$ (also equal to $2\pi R$)

the number π

- The decimal places forming π continue forever and do not form a repeated pattern

- π cannot be expressed as a fraction or ratio; so it's called an irrational number.

- has been known by many civilisations including Egyptian, Greek, Indian and Chinese

- is often approximated as 3.14 or 22/7
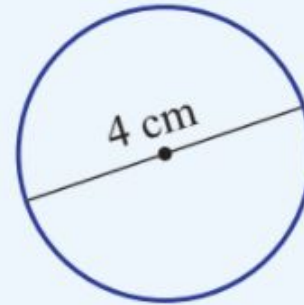
- Locate π on your calculator.

EXAMPLES OF CALCULATION OF CIRCUMFERENCE

Find the circumference of these circles correct to 2 decimal places. Use a calculator for the value of pi.

a

3.5 m

b

4 cm
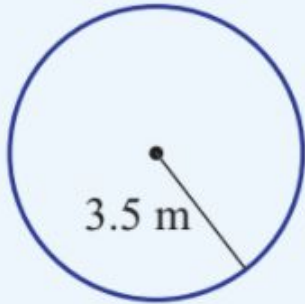
SOLUTION

EXPLANATION

a $C = 2\pi r$

 $= 2 \times \pi \times 3.5$

 $= 7\pi$

 $= 21.99$ m (to 2 decimal places)

Since r is given, you can use $C = 2\pi r$.
Alternatively use $C = \pi d$ with $d = 7$.

b $C = \pi d$

 $= \pi \times 4$

 $= 4\pi$

 $= 12.57$ cm (to 2 decimal places)

Substitute $d = 4$ into the rule $C = \pi d$ or use $C = 2\pi r$ with $r = 2$.