

GCSE Maths: Arc lengths and areas of sectors (Foundation): worksheet

GCSE Maths - Perimeter, Area and Circles - Foundation - Lesson 18.8

Name: _____

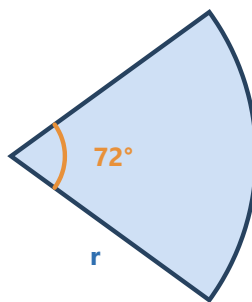
Date: _____

Score: _____

14 questions. Write your answers in the spaces. Answers and step-by-step help are free at websink.site/gcse/maths/ch18-perimeter-area-circles/foundation/arc-lengths-and-areas-of-sectors/

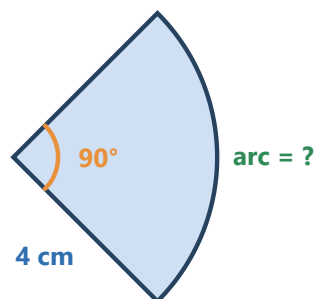
Exercise 18H Arc lengths and areas of sectors Calculator allowed

- 1 The sector has an angle of 72° . Write 72 out of 360 as a fraction of the whole circle, in its simplest form.



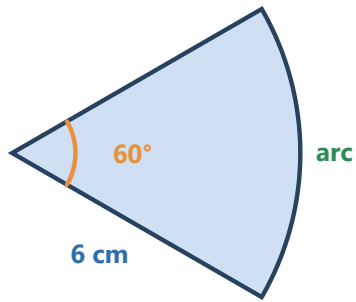
Answer: _____

- 2 A sector is exactly one quarter of a circle of radius 4 cm. Work out the arc length in terms of π .



Answer: _____

- 3 Work out (a) the arc length and (b) the area of the sector. Give your answers in terms of π .



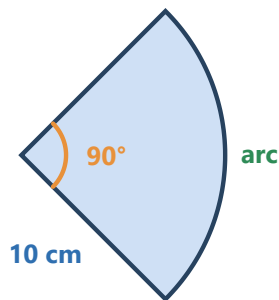
(a) arc length

Answer:

(b) area

Answer:

4 Work out (a) the arc length and (b) the area of the sector. Give your answers to 1 decimal place.



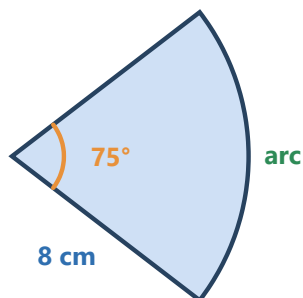
(a) arc length

Answer:

(b) area

Answer:

5 Work out (a) the arc length and (b) the area of the sector. Give your answers to 1 decimal place.



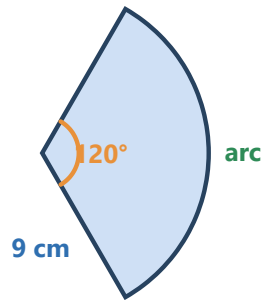
(a) arc length

Answer:

(b) area

Answer:

- 6 Work out (a) the arc length and (b) the area of the sector. Give your answers in terms of π .



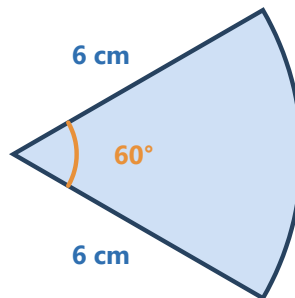
(a) arc length

Answer:

(b) area

Answer:

- 7 Work out the perimeter of the sector (a) in terms of π and (b) to 1 decimal place.



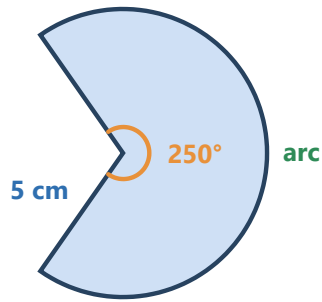
(a) in terms of π

Answer:

(b) 1 d.p.

Answer:

- 8 The sector of a circle has angle 250° (more than half the circle). Work out (a) the arc length and (b) the area. Give your answers to 1 decimal place.



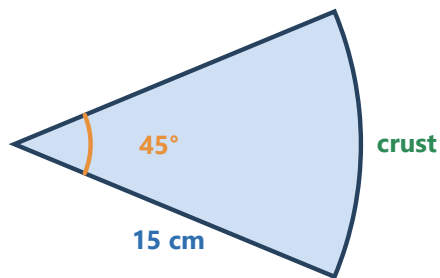
(a) arc length

Answer:

(b) area

Answer:

- 9 A slice of pizza is a sector of angle 45° cut from a pizza of radius 15 cm. Work out (a) the area of the slice and (b) the length of the curved crust, to 1 decimal place.



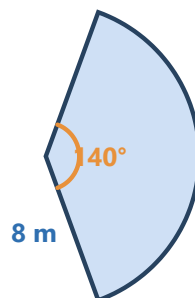
(a) area

Answer:

(b) crust

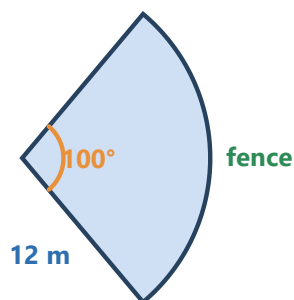
Answer:

- 10 A garden sprinkler waters a sector of radius 8 m and angle 140° . Work out the area that is watered, to 1 decimal place.



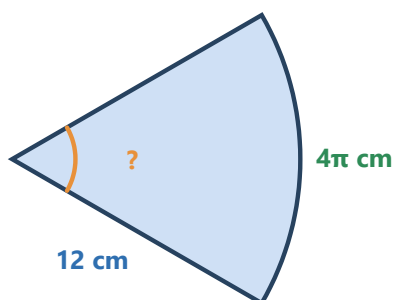
Answer:

- 11** A fence runs round the curved edge of a sector-shaped lawn. The radius of the lawn is 12 m and the angle is 100° . Fencing costs £8 per metre. Work out the cost of the fence, to the nearest pound.



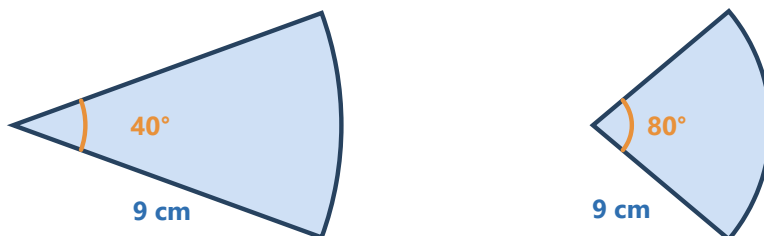
Answer:

- 12** The arc length of this sector is 4π cm and the radius is 12 cm. Work out the angle of the sector.



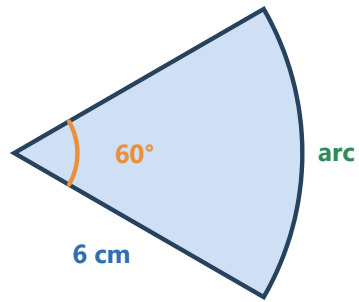
Answer:

- 13** Sector A has angle 40° and sector B has angle 80° . Both have radius 9 cm. Show that sector B has twice the arc length and twice the area of sector A.



Answer:

- 14** Ella says: "The arc length of a 60° sector with radius 6 cm is $(60/360) \times \pi \times 6^2$." Explain her mistake and give the correct arc length in terms of π .



Answer:

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