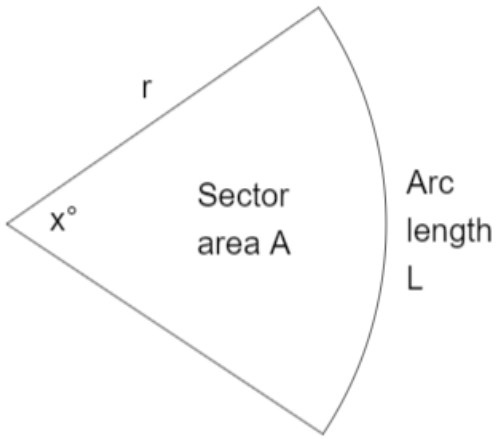
N5 Maths: Arcs and Sectors

To fit more questions onto this worksheet, we will always use the following letters:

x° = the angle at the centre
r = the radius of the sector
L = the length of the arc
A = the area of the sector.



Please note that the angle x° might be really small (example: 10°) or really big (example: 300°) so the sector won't always look like the example to the right.

You do not have to draw the sector in each question.

Q1 **a)** x = 30°, r = 7 cm. Find L. **b)** x = 65°, r = 5 cm. Find L. **c)** x = 45°, r = 6 mm. Find L.
d) x = 120°, r = 3m. Find L. **e)** x = 270°, r = 1.8m. Find L. **f)** x = 28°, r = 8 cm. Find L.

Q2 **a)** x = 6°, r = 7 cm. Find A. **b)** x = 54°, r = 8 mm. Find A. **c)** x = 92°, r = 4 cm. Find A.
d) x = 231°, r = 5 cm. Find A. **e)** x = 28°, r = 3.5cm. Find A. **f)** x = 6.2°, r = 3m. Find A.

Q3 Non-calculator. Approximate π as 3.14. Remember to simplify the angle fraction so that you end up with 3.14 times a number that only has one significant figure.
a) x = 90°, r = 12 cm. Find L. **b)** x = 60°, r = 30 cm. Find L. **c)** x = 120°, r = 12m. Find L.
d) x = 45°, r = 80m. Find L. **e)** x = 240°, r = 30 cm. Find L. **f)** x = 72°, r = 5 cm. Find L.

Q4 Non-calculator. Approximate π as 3.14. Use a similar calculation strategy to Q3.
a) x = 90°, r = 6 cm. Find A. **b)** x = 60°, r = 6 cm. Find A. **c)** x = 120°, r = 3cm. Find A.
d) x = 45°, r = 40 cm. Find A. **e)** x = 180°, r = 10 cm. Find A. **f)** x = 72°, r = 5m. Find A.

Q5 Working backwards. You may use a calculator!
a) L = 15cm, x = 30°. Find r. **b)** L = 3.5m, r = 2.1m. Find x°. **c)** L = 8m, r = 3m. Find x°.
d) A = 20cm^2, r = 5cm. Find x°. **e)** A = 9.6m^2, x = 171°. Find r. **f)** A = 4cm^2, x = 3°. Find r.

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