

Geometry in 2D

Perimeter including Compound	Calculate perimeter of compound shapes including rectangles, triangles and parallelograms. <u>Include algebra</u>	Perimeter of awkward gardens. Involve costing in real life situations
Circumference of Circles	Understand what pi is and how it is calculated. Use this to understand and generalise the rule to calculate circumference.	Tyres/wheels/ferris wheels calculations

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Arcs and Sectors	Calculate the perimeter and of arcs and sectors. Using common fractions of a whole circle such as half, quarter and three quarters only.	

Key Knowledge/Prior Learning KS2/3 and Retrieval and Suggested Starters

- Ability to identify 2D shapes
- Addition and subtraction
- measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres
- Addition/subtraction
- Addition/subtraction of decimals
- Converting units
- Identifying/classifying shapes
- Simplifying expressions

KS3 National Curriculum – what students will be practicing and Key Questions

Find the perimeter of a 2D shape.

Find the perimeter of a 2D compound shape.

Find the circumference of a circle

Find the circumference of semi circles

Find the circumference of sectors.

Specific Ambitious Knowledge

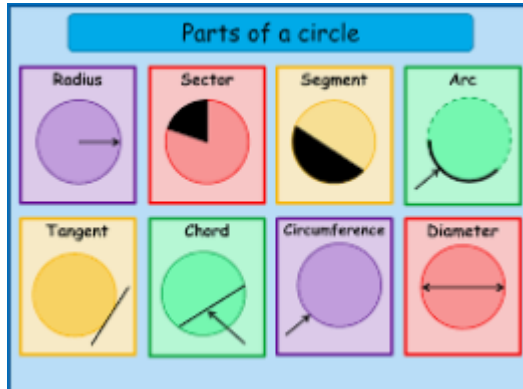
- 2 methods for perimeter of compound shapes:
Missing sides Vs opposite sides rule.
- Circles:
Numerical answers Vs in terms of Pi

Key Vocabulary/Literacy Opportunities

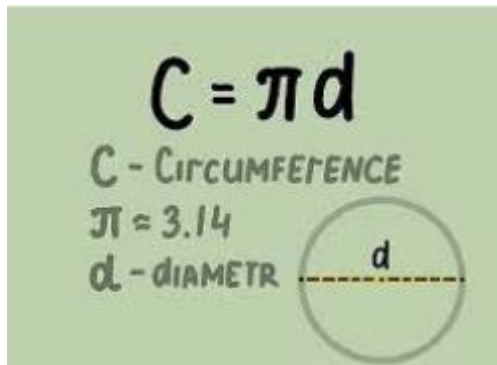
- Perimeter
- Length
- Circumference
- Sector
- Diameter
- Arc
- Radius
- Centre
- Chord
- Segment
- Proportion
- Theta

Key Formulae/Knowledge

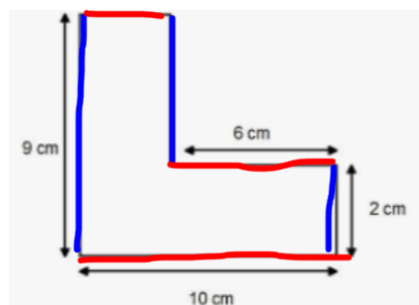
Parts of a circle



Circumference

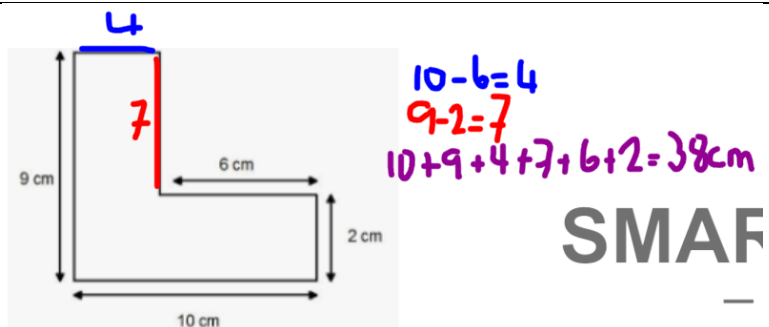


Compound shapes



$$\begin{array}{r} 9+9=18 \\ 10+10=20 \\ \hline 38\text{cm} \end{array}$$

Vs



SMAF

Arc length

$$\text{Arc length} = \frac{\theta}{360} \times \pi \times d$$

Maths in Context (Historical, Real Life and Student Thinking Points).

Projects/Enrichment/Investigations

- Circle/diameter and string investigation

Projects: