Year 11 Mathematics Learning Journey: Unit 9 - Shape

Step 1: Angles in polygons

Work out the size of an interior angle in a regular 10-sided polygon.

Step 2: Angles on parallel lines

What types of angles on parallel lines can you recall?

Step 3: Scales and bearings

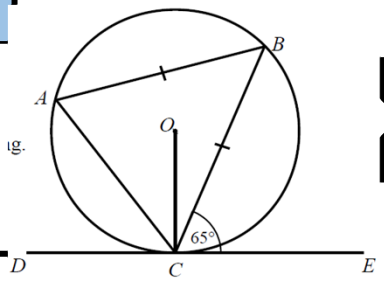
Put an *x* in the middle of your page to represent an island. Letting 1cm = 1km, mark the position of a boat 3km from the island on a bearing of 111^0.

Step 4: Bearings with angle rules

Oxford is on a bearing of 330^0 from Cambridge. Find the bearing of Cambridge from Oxford.

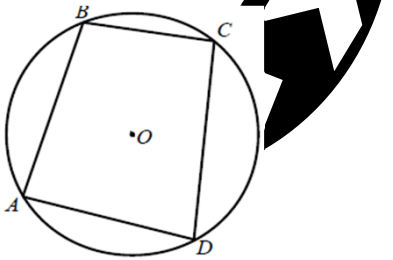
Step 5: Circle theorems

A, B and C are points on the circumference of a circle, centre O. DCE is a tangent to the circle. AB = BC. Find the size of angle AOC.



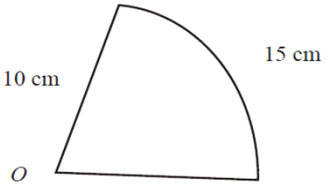
Step 6: Circle theorem proof

A, B, C and D are points on the circumference of a circle, centre O. Prove that angle ABC and ADC add to 180^0



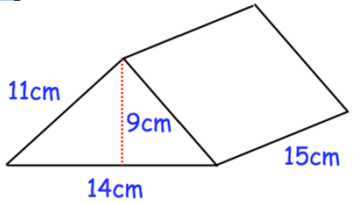
Step 8: Arc length and sector area

Calculate the area of the sector.



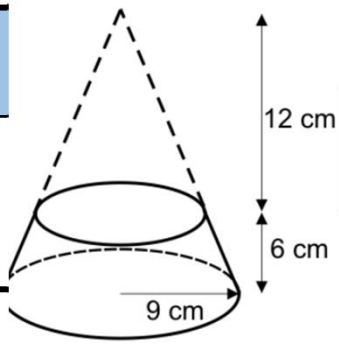
Step 10: Volume and surface area of prisms

Calculate the volume of the triangular prism



Step 12: Volume of a frustum

Work out the volume of the frustum. Give your answer in terms of π.



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