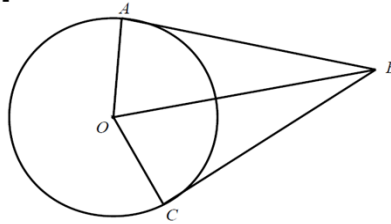


# Year 11 Mathematics Learning Journey: Unit 5 - Geometry

## Step 14: Congruency

A and C are points on a circle, centre O. AB and BC are tangents to the circle. Prove that triangle ABO is congruent to triangle BCO.

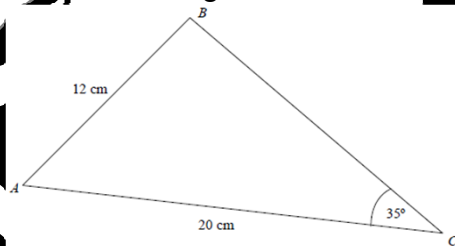


## Step 13: Problems with similar shapes

X and Y are two geometrically similar solid shapes. The total surface area of shape X is  $450\text{cm}^2$ . The total surface area of shape Y is  $800\text{cm}^2$ . The volume of shape X is  $1350\text{cm}^3$ . Calculate the volume of shape Y.

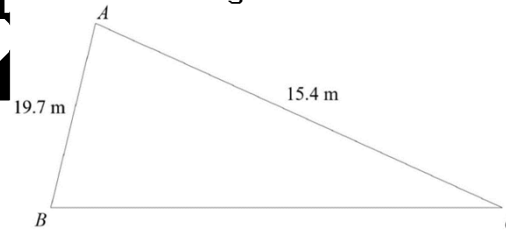
## Step 4: Sine rule

Angle ABC is obtuse. Work out the size of angle ABC.



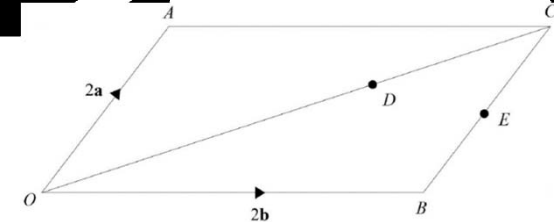
## Step 6: Problems with triangles

The area of the triangle is  $100\text{m}^2$ . Calculate the perimeter of triangle ABC.



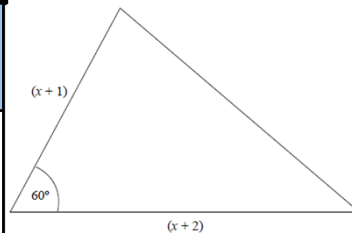
## Step 9: Parallel and collinear points

$OD : DC = 2:1$ . E is the midpoint of BC. Show that A, D and E are on the same straight line.



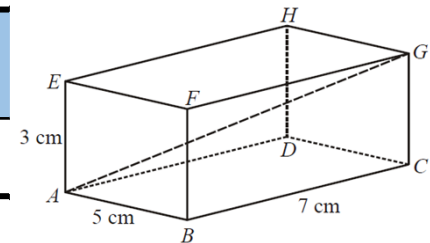
## Step 3: Area of any triangle

The area of the triangle is  $25\text{cm}^2$ . Work out the value of x.



## Step 2: Pythagoras and trigonometry in 3D

Calculate the length of AG.



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