

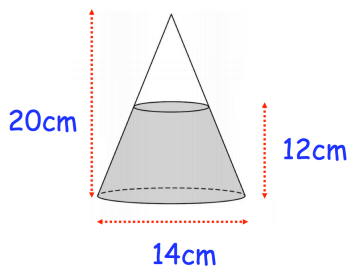
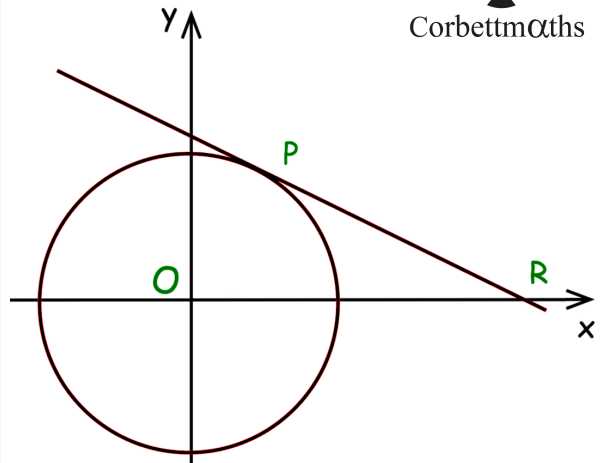


The diagram shows the circle
 $x^2 + y^2 = 17$

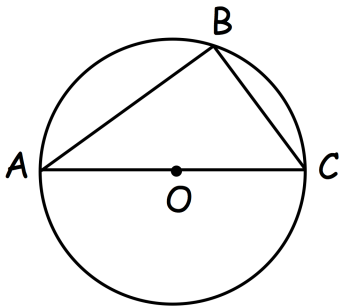
The point P lies on the circle and has
 x-coordinate 1.

The tangent at the point P crosses the
 x-axis at R.

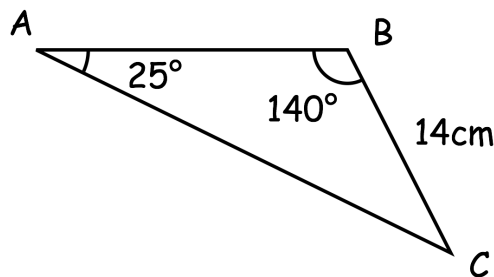
Work out the coordinates of the point R



Find the volume of liquid in the
 container



Prove that the angle in a semi-circle is
 always 90°



All values are correct to 2 significant
 figures.
 Calculate the upper bound of AC.