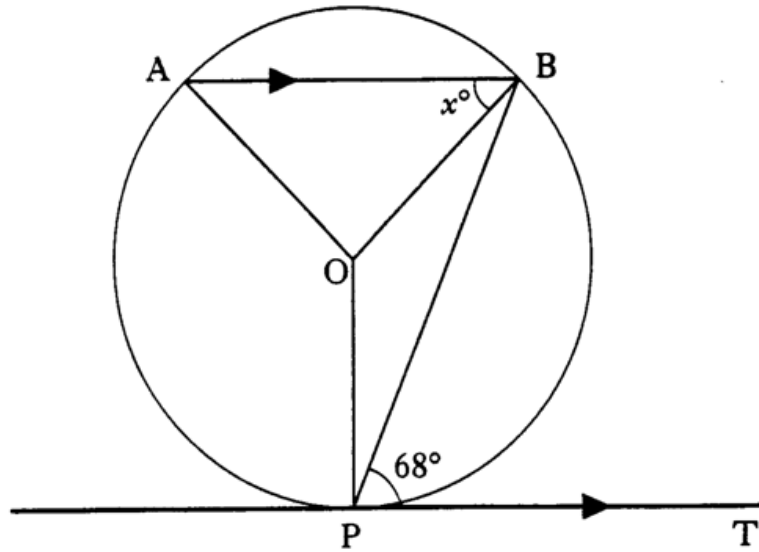


## Symmetry in a Circle - N5 Homework

Q1.



PT is a tangent to the circle, centre O.

PT is parallel to AB.

Angle BPT =  $68^\circ$ .

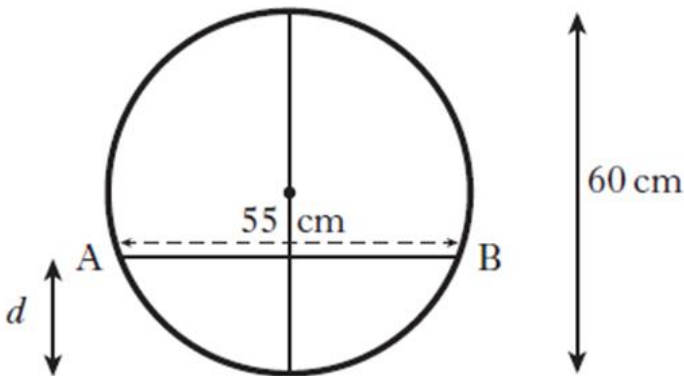
(a) What is the size of the angle BPO?

(b) Calculate the size of the angle marked  $x^\circ$ .

Q2.

Water flows through a horizontal pipe of diameter 60 centimetres.

The surface width, AB, of the water is 55 centimetres.



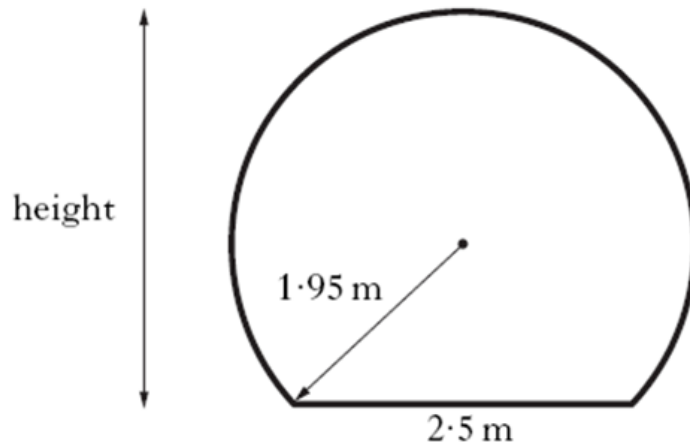
(a) Calculate the depth,  $d$ , of the water in the pipe.

(b) What other depth of water would give the same surface width?

## Symmetry in a Circle - N5 Homework

Q3.

The diagram below shows the cross-section of the tunnel. It consists of part of a circle with a horizontal base.



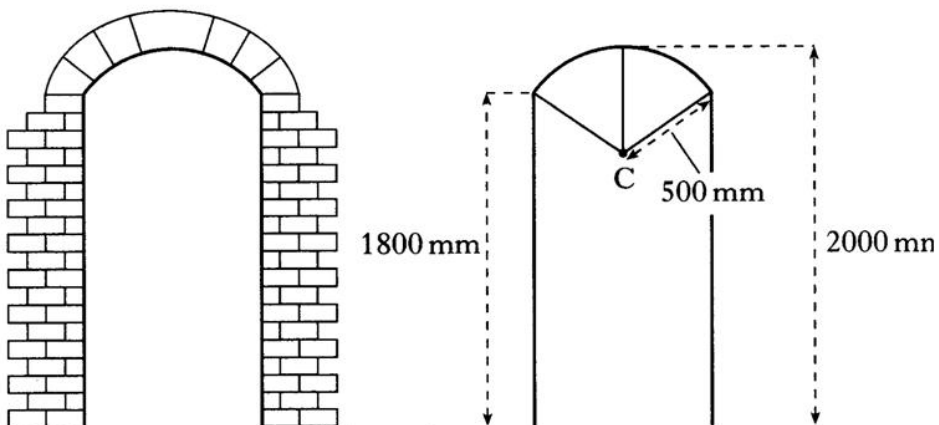
The radius of the circle is 1.95 metres and the width of the base is 2.5 metres. Calculate the height of the tunnel.

Q4.

The curved part of a doorway is an arc of a circle with radius 500 millimetres and centre C.

The height of the doorway to the top of the arc is 2000 millimetres.

The vertical edge of the doorway is 1800 millimetres.



Calculate the width of the doorway.