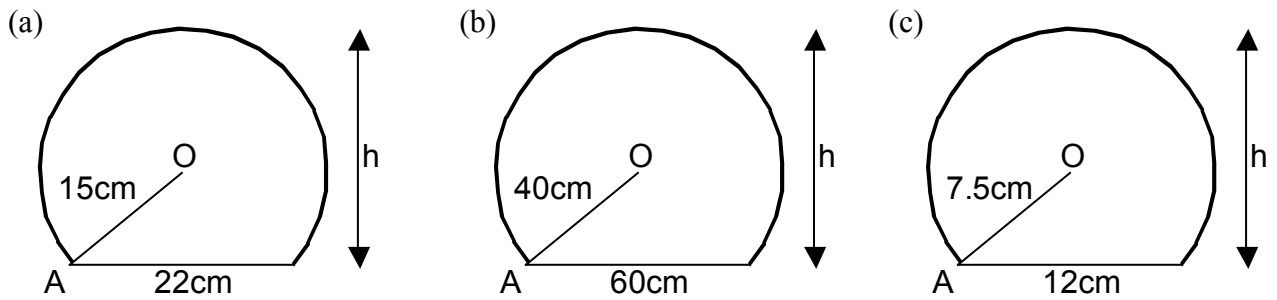
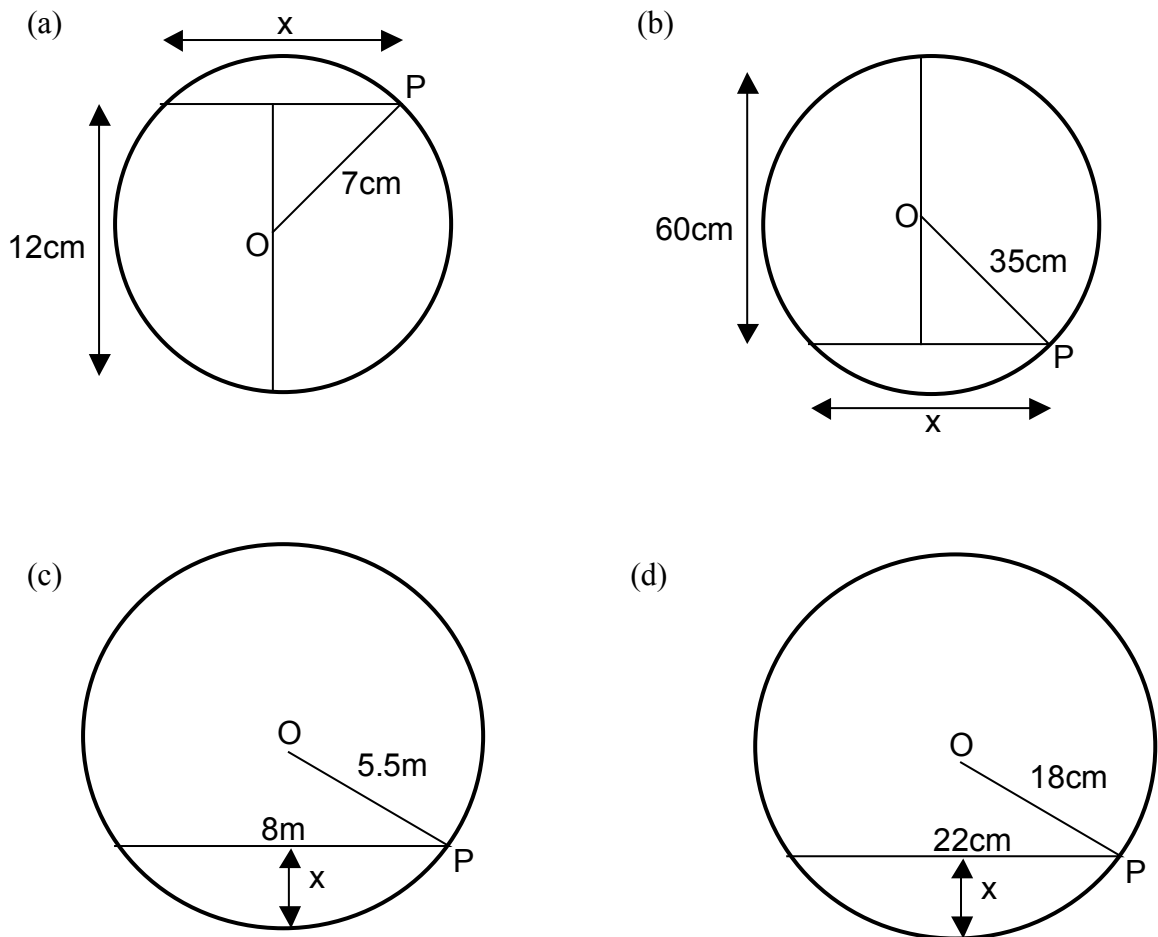


Circle & Pythagoras

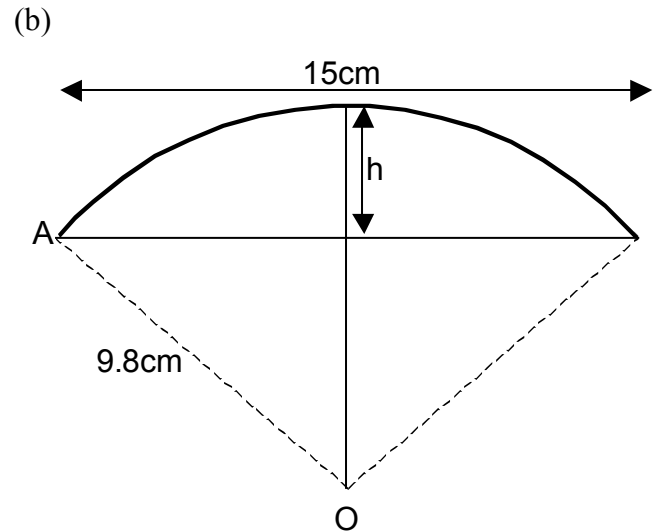
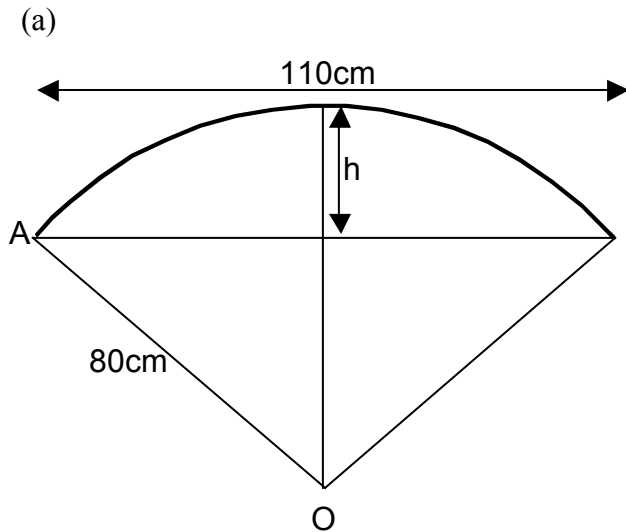
1. Each diagram below shows a cut-off circle with a horizontal base. OA is a radius of the circle. Calculate h.



2. In each circle below OP is a radius. Calculate x.

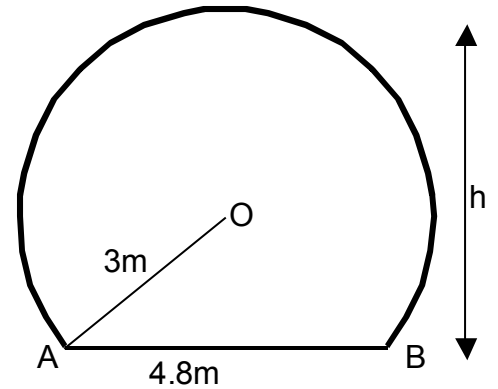


3. The diagrams below shows an arc of a circle with radius OA. Calculate h.



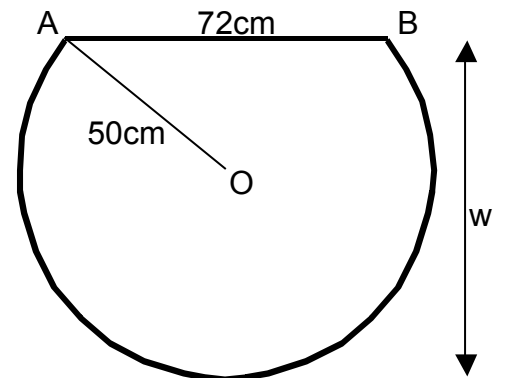
4. The diagram opposite shows the cross-section of a tunnel. This cross-section is in the shape of a circle with a horizontal floor. The radius of the circle is 3 metres. The floor of the tunnel, AB, is 4.8 metres.

Calculate h, the height of the tunnel.



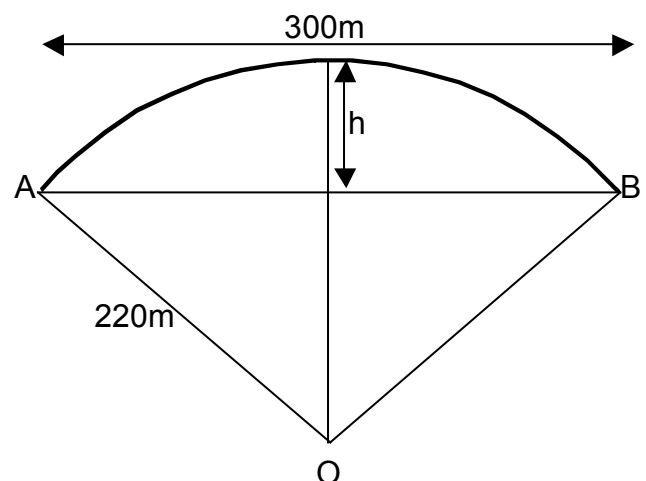
5. The diagram opposite shows a table. The table is in the shape of a circle with a straight edge. The radius OA of the table is 50 cm and AB is 72 cm.

Calculate w, the width of the table.



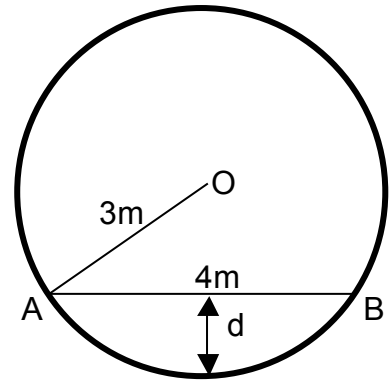
6. The diagram shows the side view of a bridge in the shape of an arc of a circle. O is the centre of the circle which has radius 220 metres. AB is 300 metres.

Calculate the distance h.



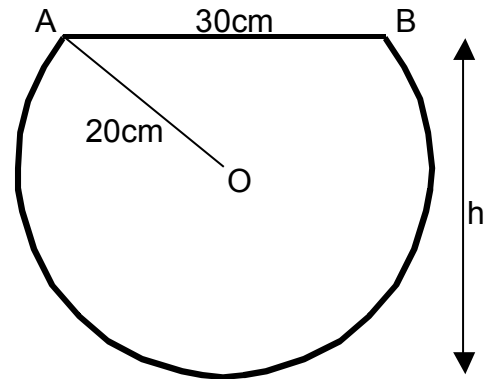
7. The diagram opposite shows a cylindrical oil tank.
 $AB = 4$ metres and the radius $OA = 3$ metres.

Calculate the depth d metres.



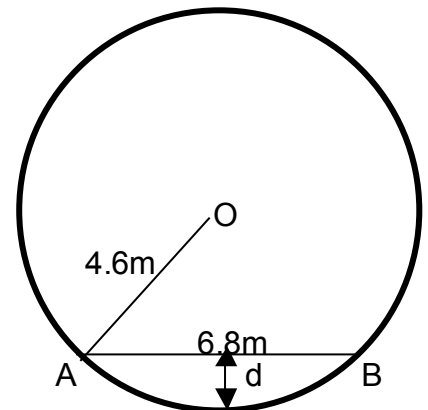
8. A logo for a company is in the shape of a circle with a horizontal top.
 The radius OA of the circle is 20 cm and the distance AB is 30 cm.

Calculate h , the height of the logo.



9. The diagram opposite shows a water tank with a circular cross-section.
 The radius of the tank is 4.6 metres and the width of the surface of the water in the tank is 6.8 metres.

Calculate d , the depth of water in the tank.



10. The diagram opposite shows a circular piece of wood with the top sawn off.
 The circle has radius $OA = 55$ centimetres.

Calculate w , the width of the straight edge of the wood.

