



**1**. The diagram shows a pipe with a small amount of water sitting in the bottom.

The radius of the pipe is 11cm and the length of AB is 18cm.

- a) Calculate the depth of the water
- b) If the pipe continues to fill with water, what will the depth be when AB is again 18cm? (1)

-18 cm-



The figure shows the cross section of a tunnel with a horizontal floor AB which is  $2 \cdot 4$  metres wide. The radius OA of the cross section is  $2 \cdot 5$  metres. Find the height of the tunnel. (4)

**3**. In a cuboid a space diagonal is a line joining two vertices not on the same face.

Calculate the length of the space diagonal PQ.





Determine whether or not angle ADC is right angled?

**Total Marks: 18** 

(5)





**Marks**