

1 A student measures the volume of a cork.

He puts some water into a measuring cylinder and then one glass ball. He puts the cork and then a second, identical glass ball into the water as shown.

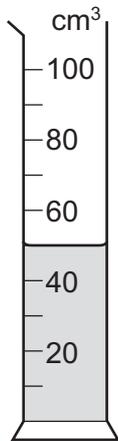


diagram 1

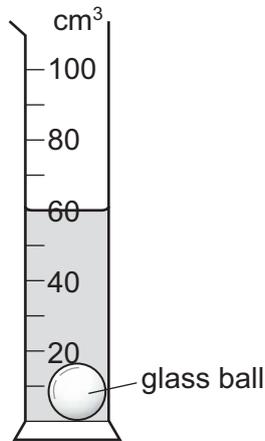


diagram 2

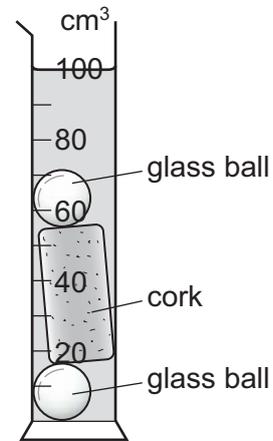


diagram 3

Diagram 1 shows the first water level.

Diagram 2 shows the water level after one glass ball is added.

Diagram 3 shows the water level after the cork and the second glass ball are added.

What is the volume of the cork?

- A**  $30 \text{ cm}^3$       **B**  $40 \text{ cm}^3$       **C**  $50 \text{ cm}^3$       **D**  $100 \text{ cm}^3$

2 Four balls with different masses are dropped from the heights shown.

Air resistance may be ignored.

Which ball has the smallest average speed?

