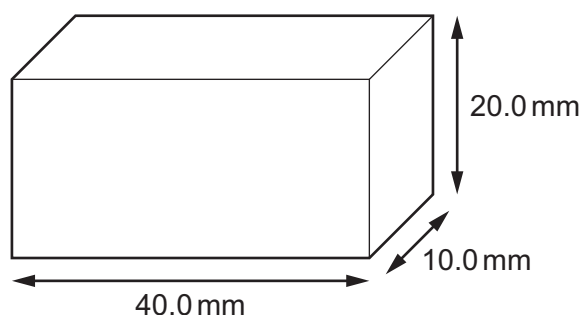5 The sides of a wooden block are measured with calipers. The lengths of the sides are measured as 20.0 mm, 40.0 mm and 10.0 mm.

20.0 mm

10.0 mm

40.0 mm

The calipers can measure with an absolute uncertainty of ± 0.1 mm.

What is the percentage uncertainty in the calculated volume of the block?

A   0.3%   **B**   1.8%   **C**   3.8%   **D**   30%

6 A ball is thrown vertically upwards from ground level and reaches a maximum height of 12.7 m before falling back to ground level.

Assume air resistance is negligible.

What is the total time for which the ball is in the air?

A   1.61 s   **B**   3.22 s   **C**   3.88 s   **D**   5.18 s

7 A snooker ball has a mass of 200 g. It hits the cushion of a snooker table and rebounds along its original path.

The ball arrives at the cushion with a speed of 14.0 m s^{-1} and then leaves it with a speed of 7.0 m s^{-1}. The ball and the cushion are in contact for a time of 0.60 s.

What is the average force exerted on the ball by the cushion?

A   1.4 N   **B**   2.3 N   **C**   4.2 N   **D**   7.0 N

8 A tennis ball is released from rest at time t = 0 and falls through air for a long time.

Which graph of its displacement s against time t best represents the motion of the ball?