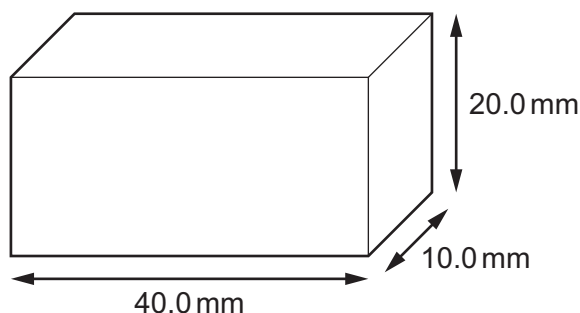


- 5 The sides of a wooden block are measured with calipers. The lengths of the sides are measured as 20.0 mm, 40.0 mm and 10.0 mm.



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 ms^{-1} and then leaves it with a speed of 7.0 ms^{-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?

