10 A ball falls through a liquid at a constant speed. It is acted upon by three forces: an upthrust, a drag force and its weight.

The liquid has a uniform density.

Which statement is correct?

A The drag force increases with increasing depth.

B The drag force is equal to the sum of the upthrust and weight.

C The upthrust is constant with increasing depth.

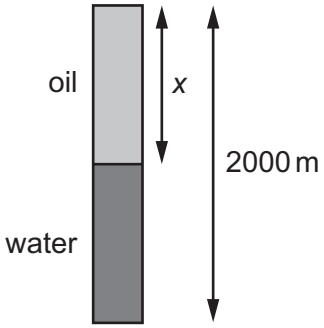
D The weight is greater than the sum of the drag force and the upthrust.

11 Some small solid cubes each have mass 1.0 kg and sides of length 5.0 cm. These small cubes are stacked together to form a large solid cube with sides of length 2.0 m.

What is the weight of the large cube?

A 0.39 kN **B** 0.39 MN **C** 0.63 MN **D** 0.63 GN

12 A borehole of depth 2000 m contains both oil and water, as shown. The pressure due to the liquids at the bottom of the borehole is 17.5 MPa. The density of the oil is 830 kg m^{-3} and the density of the water is 1000 kg m^{-3}.



What is the depth *x* of the oil?

A 907 m **B** 1000 m **C** 1090 m **D** 1270 m