

- 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.

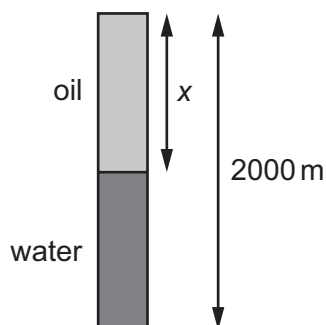
Which statement is correct?

- 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