Solutions

Each answer shows the steps, then the **result**.

2.1

- the buoyant force on an object equals the weight of the fluid it displaces

2.2

- 5.0 N (equal to the weight of displaced fluid)

2.3

- the object's density must be less than (or equal to) the fluid's density

3.1 B

3.2 C

3.3

(a)

- $F_b = \rho g V = 1000 \times 10 \times 1.0 \times 10^{-3} = 10$ N

(b)

- weight $= mg = 20$ N > 10 N, so it sinks — the buoyant force cannot support it