A-Level Physics: **w25 11**

Question 15 (Answer: **C**)

- Two adult feet cover roughly 0.05 m^2 – about 25 cm by 10 cm each.
- $p = F/A = 600/0.05 \approx 1 \times 10^4$ Pa.
- B would need feet of about 6 m^2; D would need them the size of a stamp.

A-Level Physics: **w25 12**

Question 1 (Answer: **B**)

- A typical adult has a mass of about 70 kg.
- $W = mg = 70 \times 9.81 \approx 700$ N, which is 7×10^2 N.
- A is the weight of a 0.7 kg object; C is the weight of about 7000 kg.

A-Level Physics: **w25 14**

Question 1 (Answer: **C**)

- Every physical quantity is a numerical magnitude together with a unit.
- The unit need not be an SI one: 5 miles is still a length, so D is too strict.
- It need not be a base unit either (A), and standard form is only a way of writing it (B).

A-Level Physics: **s25 12**

Question 1 (Answer: **D**)

- A physical quantity is always a number together with a unit, such as $m = 2.5$ kg.
- Only vectors carry a direction, so A and B would exclude scalars like mass.
- A prefix is optional – the k in kg – so C is not essential.

A-Level Physics: **s25 14**

Question 3 (Answer: **A**)

- A diameter crosses the wall twice, so the thickness is $(12.0 - 10.0)/2 = 1.0$ mm.
- For a subtraction the absolute uncertainties add: $0.1 + 0.1 = 0.2$ mm.
- Halving the difference halves that too, giving ± 0.1 mm; B forgets to halve it.