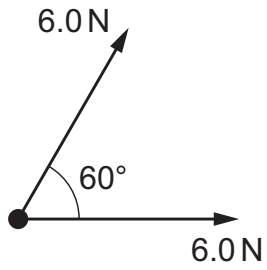
Name: A-Level Physics: **w25 13**

4 The diagram shows two forces of 6.0 N acting on an object. The angle between the lines of action of the two forces is 60°.



What is the magnitude of the resultant force?

A 6.0 N **B** 7.9 N **C** 10 N **D** 12 N

A-Level Physics: **s25 13**

1 What represents a vector quantity?

A 1 N upwards

B 2 kg decrease

C 3 K cooler

D 4 s later

2 What is a reasonable estimate of the current in an electric kettle that is in use?

A 8 μA **B** 8 mA **C** 8 A **D** 8 kA

3 Which statement about errors in measurements is correct?

A An accurate set of measurements always has a small random error.

B A precise set of measurements always has a small systematic error.

C A random error can be reduced by taking an average of several measurements.

D A systematic error creates a random set of measurements spread out about the true value.

A-Level Physics: **w25 11**

1 The table shows some physical quantities.

Which row correctly identifies the quantities as scalars or vectors?

	acceleration	charge	kinetic energy	wavelength
A	scalar	vector	vector	scalar
B	vector	vector	scalar	scalar
C	scalar	scalar	scalar	vector
D	vector	scalar	scalar	scalar

2 Two quantities are measured.

$$L = 6.8 \pm 0.1\,\text{cm}$$

$$T = 2.42 \pm 0.08\,\text{s}$$

L and T are related to X by the equation shown.

$$X = \frac{4\pi^2 L}{T^2}$$

What is the calculated value and uncertainty of X?

A $45.8 \pm 0.2\,\text{cm s}^{-2}$

B $45.8 \pm 0.3\,\text{cm s}^{-2}$

C $46 \pm 2\,\text{cm s}^{-2}$

D $46 \pm 4\,\text{cm s}^{-2}$

3 What are the SI base units of the watt?

A J s^{-1} **B** $\text{kg m}^2\text{ s}^{-3}$ **C** $\text{kg m}^2\text{ s}^{-1}$ **D** N m s^{-1}

15 A man of weight 600 N stands with both feet flat on the ground.

What is a reasonable estimate of the pressure exerted on the ground by the weight of the man?

A $1 \times 10^0\,\text{Pa}$ **B** $1 \times 10^2\,\text{Pa}$ **C** $1 \times 10^4\,\text{Pa}$ **D** $1 \times 10^6\,\text{Pa}$

22 What are the SI base units of stress?

A kg m s^{-2} **B** $\text{kg m}^{-1}\text{ s}^{-2}$ **C** $\text{kg m}^{-2}\text{ s}^{-2}$ **D** $\text{kg m}^{-3}\text{ s}^{-2}$

1 What is a reasonable estimate of the weight of an adult human?

A $7 \times 10^0\,\text{N}$ **B** $7 \times 10^2\,\text{N}$ **C** $7 \times 10^4\,\text{N}$ **D** $7 \times 10^6\,\text{N}$