1 What is a scalar quantity?

A a quantity that can be represented as two perpendicular components

B a quantity that does **not** require a unit

C a quantity without a direction

D a quantity without a magnitude

2 The value of quantity X has a percentage uncertainty of 2%.

The value of quantity Y has a percentage uncertainty of 4%.

The value of a quantity W is calculated from the values of X and Y.

The value of W has a percentage uncertainty of 8%.

What could be the relationship between W, X and Y?

A $W = XY$ **B** $W = 2XY$ **C** $W = \frac{X}{Y^2}$ **D** $W = \frac{Y}{X^2}$

3 A football is kicked so that it moves vertically upwards through the air.

What is the variation in the air resistance and the resultant force acting on the ball as it moves vertically upwards?

	air resistance	resultant force
A	decreases	decreases
B	decreases	increases
C	increases	decreases
D	increases	increases

4 Which statement is **not** correct?

A Acceleration can be determined from the gradient of a velocity–time graph.

B Acceleration is the rate of change of velocity.

C Displacement can be determined from the area under a velocity–time graph.

D Velocity is the rate of change of distance.