5 Which calculation produces a vector quantity?

A current × time

B final displacement – initial displacement

C $\frac{\text{work done}}{\text{time}}$

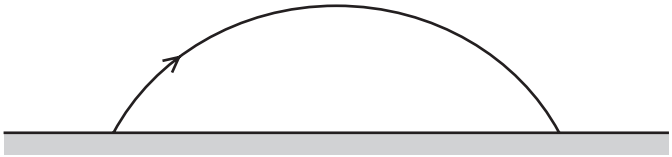
D $\frac{1}{2} \times \text{mass} \times (\text{speed})^2$

6 A thermometer can be read to an accuracy of ± 0.5 °C. This thermometer is used to measure a temperature rise from 40 °C to 100 °C.

What is the percentage uncertainty in the measurement of the temperature rise?

A 0.5% **B** 0.8% **C** 1.3% **D** 1.7%

7 The diagram shows the path of a golf ball.



Which row describes changes in the horizontal and vertical components of the golf ball's velocity when air resistance is ignored?

	horizontal	vertical
A	constant deceleration	constant acceleration downwards
B	constant deceleration	acceleration decreases upwards then increases downwards
C	constant velocity	constant acceleration downwards
D	constant velocity	acceleration decreases upwards then increases downwards

8 An aircraft flies from London to Sydney in a time of 21 hours 40 minutes.

The distance travelled is 17 000 km.

What is the average speed of the aircraft?

A $2.2\,\text{m}\,\text{s}^{-1}$

B $2.2 \times 10^{7}\,\mu\text{m}\,\text{s}^{-1}$

C $2.2 \times 10^{11}\,\text{nm}\,\text{s}^{-1}$

D $2.2 \times 10^{6}\,\text{mm}\,\text{s}^{-1}$