

- 1 What is needed to accurately represent all physical quantities?
- A a base unit and a number
  - B a unit and a number expressed in standard form (scientific notation)
  - C a unit and a numerical magnitude
  - D an SI unit and a numerical magnitude

- 2 A voltmeter connected across a resistor in a circuit reads 3.6 V.

What could be the current in the resistor and the resistance of the resistor?

	current	resistance
A	150 mA	0.24 k $\Omega$
B	15 mA	2.4 k $\Omega$
C	1.5 mA	0.24 M $\Omega$
D	15 $\mu$ A	240 k $\Omega$

- 3 In an experiment to determine the acceleration of free fall  $g$ , the time  $t$  taken for a ball to fall through distance  $s$  is measured. The percentage uncertainty in the measurement of  $s$  is 2%. The percentage uncertainty in the measurement of  $t$  is 3%.

The value of  $g$  is determined using the equation shown.

$$g = \frac{2s}{t^2}$$

What is the percentage uncertainty in the calculated value of  $g$ ?

- A 1%                      B 5%                      C 8%                      D 11%
- 4 Which quantity is a vector?
- A momentum
  - B speed
  - C temperature
  - D Young modulus