

- 4 What could reduce systematic errors?
- A averaging a large number of measurements
 - B careful calibration of measuring instruments
 - C reducing the sample size
 - D repeating measurements

- 5 The power loss P in a resistor is calculated using the formula $P = \frac{V^2}{R}$.

The percentage uncertainty in the potential difference V is 3% and the percentage uncertainty in the resistance R is 2%.

What is the percentage uncertainty in P ?

- A 4% B 7% C 8% D 11%
- 6 A lead sphere is released from rest at point X, a long way above the surface of a planet. The sphere falls in a vacuum. After a time of 4.0 s, it has fallen through a vertical distance of 3.0 m. Assume the acceleration of free fall is constant.

How far will the sphere have fallen from point X at a time of 20 s after its release?

- A 15 m B 75 m C 80 m D 2000 m
- 7 A box rests on the Earth, as shown.

Newton's third law describes how forces of the same type act in pairs. One of the forces of a pair is the weight W of the box.

Which arrow represents the other force of this pair?

