

- 6 A student wishes to determine the density  $\rho$  of lead. She measures the mass and diameter of a small sphere of lead:

$$\text{mass} = (0.506 \pm 0.005)\text{g}$$

$$\text{diameter} = (2.20 \pm 0.02)\text{mm}.$$

What is the best estimate of the percentage uncertainty in her value of  $\rho$ ?

A 1.9%

B 2.0%

C 2.8%

D 3.7%

- 7 The graph shows how the velocity  $v$  of a fireworks rocket changes with time  $t$ .