1 A student estimates the maximum speed of some different moving objects.

Which maximum speed is **not** a reasonable estimate?

A container ship: $10\,\text{m}\,\text{s}^{-1}$

B Olympic sprinter: $0.1\,\text{km}\,\text{s}^{-1}$

C racing car: $9000\,\text{cm}\,\text{s}^{-1}$

D snail: $0.01\,\text{km}\,\text{h}^{-1}$

2 Which quantity is an SI base quantity?

A force

B newton

C second

D time

3 A student takes measurements to determine the constant acceleration of a model car moving from rest in a straight line. The measured values with their absolute uncertainties are shown.

quantity	measured value	uncertainty
displacement	16.5 m	± 0.1 m
time	15.0 s	± 1.0 s

The student uses the equation $s = \frac{1}{2}at^2$ to calculate the acceleration of the car.

What is the acceleration and its absolute uncertainty?

A $(0.11 \pm 0.01)\,\text{m}\,\text{s}^{-2}$

B $(0.11 \pm 0.02)\,\text{m}\,\text{s}^{-2}$

C $(0.15 \pm 0.01)\,\text{m}\,\text{s}^{-2}$

D $(0.15 \pm 0.02)\,\text{m}\,\text{s}^{-2}$