

- 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	$\pm 0.1$ m
time	15.0 s	$\pm 1.0$ 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**  $(0.11 \pm 0.01) \text{ m s}^{-2}$
- B**  $(0.11 \pm 0.02) \text{ m s}^{-2}$
- C**  $(0.15 \pm 0.01) \text{ m s}^{-2}$
- D**  $(0.15 \pm 0.02) \text{ m s}^{-2}$