

**18** On the surface of a planet, 30 J of work is done against gravity to raise a mass of 1.0 kg through a height of 10 m.

How much work must be done to raise a mass of 4.0 kg through a height of 5.0 m on this planet?

**A** 15 J

**B** 60 J

**C** 120 J

**D** 200 J

**19** The speed of a car increases from  $10 \text{ m s}^{-1}$  to  $15 \text{ m s}^{-1}$  and its kinetic energy increases by  $\sqrt{\quad}$