

15 What is the expression used to **define** power?

- A $\frac{\text{energy output}}{\text{energy input}}$
- B energy x time taken
- C force x velocity
- D $\frac{\text{work done}}{\text{time taken}}$

16 A ball is thrown vertically upwards.

Neglecting air resistance, which statement is correct?

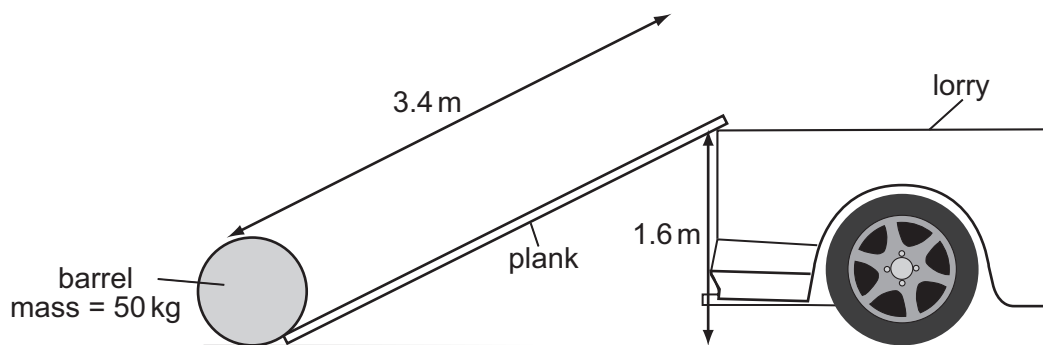
- A The kinetic energy of the ball is greatest at the greatest height attained.
- B By the principle of conservation of energy, the total energy of the ball is constant throughout its motion.
- C By the principle of conservation of momentum, the momentum of the ball is constant throughout its motion.
- D The potential energy of the ball increases uniformly with time during the ascent.

17 Car X is travelling at half the speed of car Y. Car X has twice the mass of car Y.

Which statement is correct?

- A Car X has half the kinetic energy of car Y.
- B Car X has one quarter of the kinetic energy of car Y.
- C Car X has twice the kinetic energy of car Y.
- D The two cars have the same kinetic energy.

18 A barrel of mass 50 kg is loaded onto the back of a lorry 1.6 m high by pushing it up a smooth plank 3.4 m long.



What is the minimum work done?

- A 80 J
- B 170 J
- C 780 J
- D 1700 J