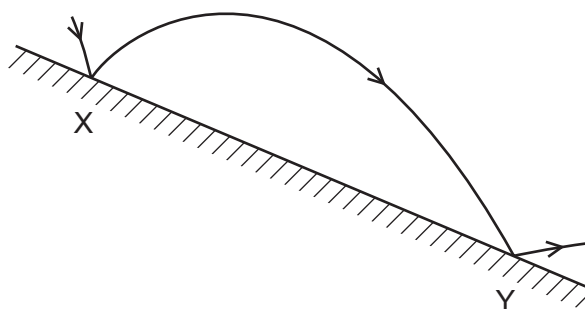
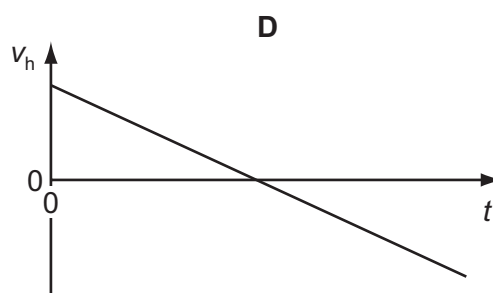
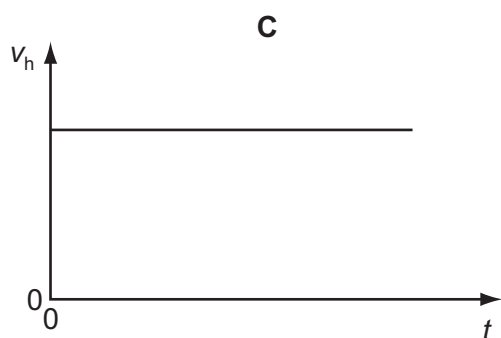
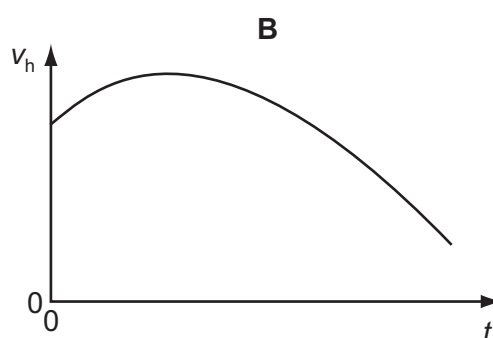
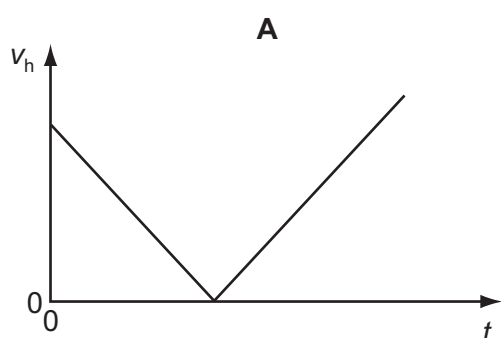


- 10 A football is released above a plane, sloping surface and bounces several times. The diagram shows its path between its bounces at X and at Y. Assume that there is no air resistance.



Which graph correctly shows the variation with time  $t$  of the horizontal component of its velocity  $v_h$  between X and Y?



- 11 A rocket of mass 30 000 kg sits on a launch pad on the Earth's surface. The rocket motors provide an upward force of 330 kN on the rocket.

What is the initial acceleration of the rocket?

- A**  $0.12 \text{ ms}^{-2}$
- B**  $1.1 \text{ ms}^{-2}$
- C**  $1.2 \text{ ms}^{-2}$
- D**  $11 \text{ ms}^{-2}$