

- 4 An object of fixed mass is initially at rest at point P. The object then moves away from point P with uniform acceleration.

Which statement describes the resultant force acting on the object when it is moving?

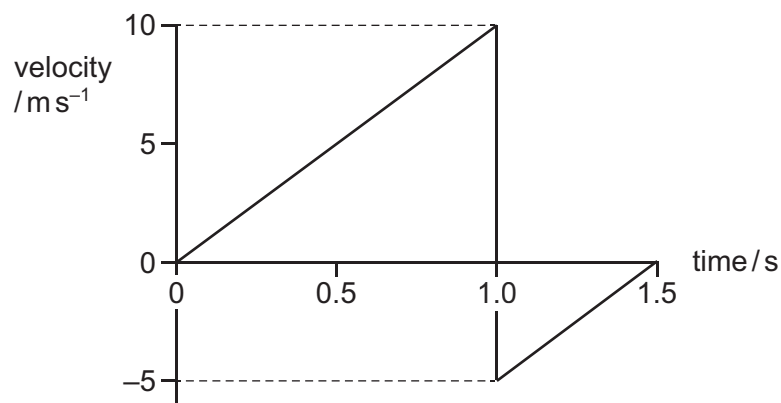
- A It increases uniformly with respect to time.
- B It is constant but not zero.
- C It is proportional to the displacement from point P.
- D It is zero.

- 5 A projectile is launched at an angle of 25° to the horizontal with a horizontal component of velocity of 13 m s^{-1} .

What is the vertical component of the velocity of the projectile when it is launched?

- A 5.5 m s^{-1} B 6.1 m s^{-1} C 12 m s^{-1} D 14 m s^{-1}

- 6 A ball is released from rest at position X at time zero. At 1.0 s, it bounces inelastically from a horizontal surface and rebounds, reaching the top of its first bounce at 1.5 s.



What is the total displacement of the ball from its original position X at 1.5 s?

- A 1.25 m B 3.75 m C 5.00 m D 6.25 m

- 7 What is the definition of acceleration?

- A change in velocity per unit time
- B rate of change of speed per unit time
- C rate of change of velocity per unit time
- D resultant force per unit mass