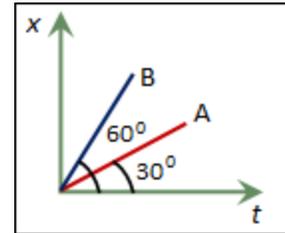


GRAPHICAL STUDY OF MOTION

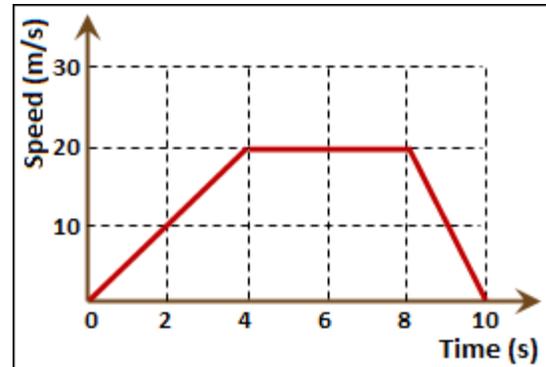
1. The displacement-time graphs of two bodies A and B are shown in figure. The ratio of velocity of A to velocity of B is:

(a) $\sqrt{3}$ (b) $1/2$ (c) 3 (d) $1/3$

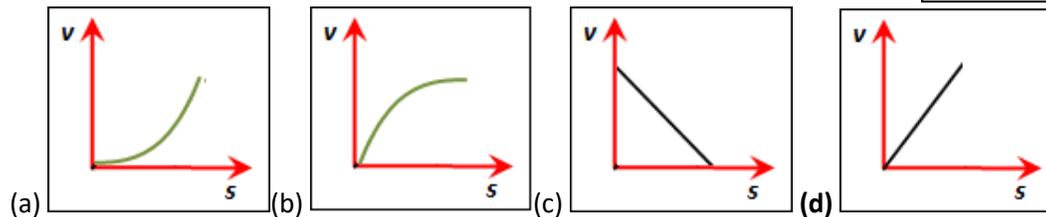
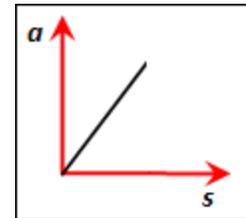


2. Figure gives the speed-time graph of the motion of a car. What is the ratio of the distance travelled by the car during the last two seconds to the total distance travelled in 10 seconds?

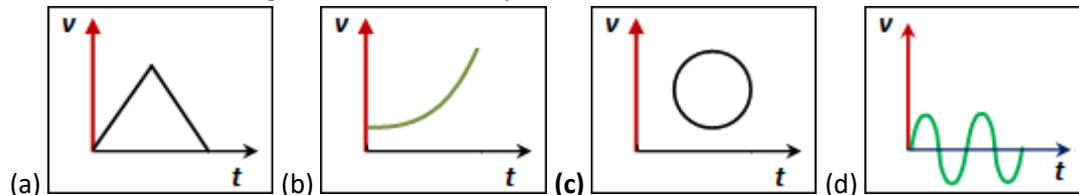
(a) $1/7$ (b) $1/9$ (c) $2/9$ (d) $2/7$



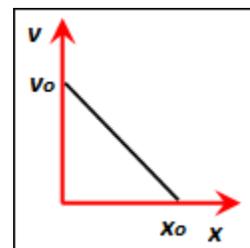
3. Acceleration (a)-displacement (s) graph of a particle moving in a straight line is shown in the figure. The initial velocity of the particle is zero. The v - s graph of the particle would be:

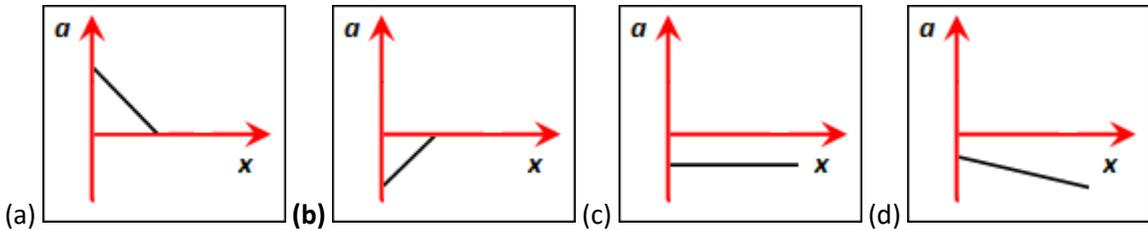


4. Which of the following curves does not represent motion in one dimension?

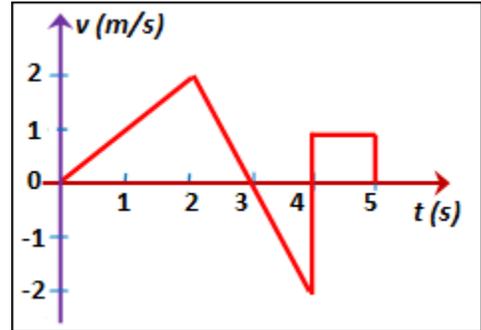


5. The given graph shows the variation of velocity with displacement. Which one of the graph given below correctly represents the variation of acceleration with displacement?

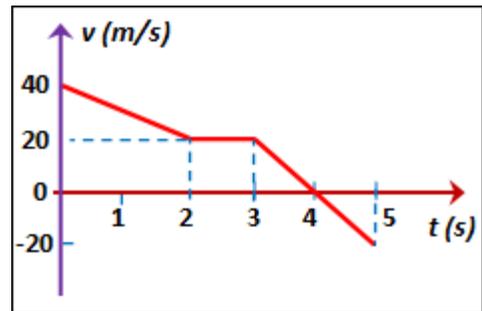




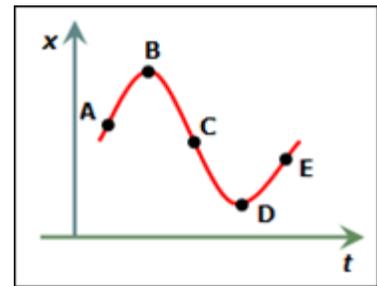
6. The velocity v versus time t graph of a body in a straight line is as shown in figure. The displacement and distance of the body in five seconds are, respectively:
 (a) 2 m, 3 m (b) 3 m, 5 m (c) 3m, 4 m (d) 5 m, 5 m



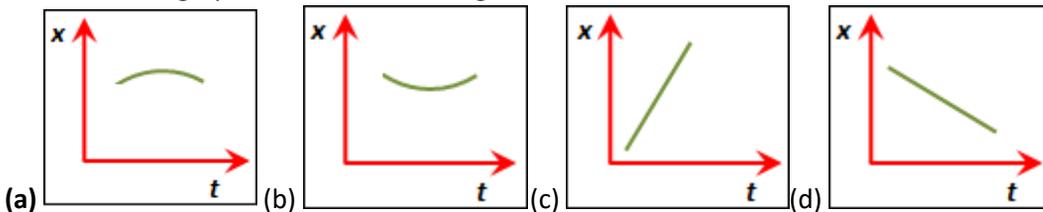
7. In the given v - t graph the distance travelled by the body in 5 seconds will be:
 (a) 100 m (b) 80 m (c) 40 m (d) 20 m



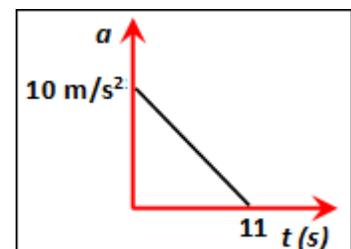
8. The displacement (x) - time (t) graph of a moving particle is as shown in figure. The instantaneous velocity of the particle is negative at the point:
 (a) A (b) B (c) C (d) E



9. Position- time graph for motion with negative acceleration is:

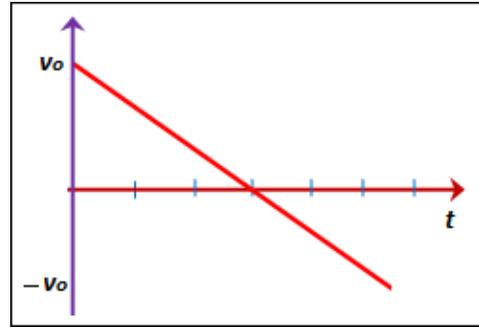


10. A particle starts from rest. Its acceleration (a) versus time (t) graph is as shown in the figure. The maximum speed of the particle will be:
 (a) 110 m/s (b) 55 m/s (c) 165 m/s (d) 220 m/s



11. Consider the velocity-time graph given ahead. It represents the motion of:

- (a) A projectile projected vertically upward, from a point (b) An electron in the hydrogen atom (c) A car with constant acceleration along a straight road (d) A bullet fired horizontally from the top of a tower

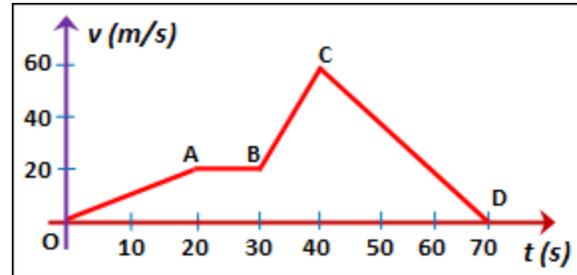


12. The velocity versus time curve of a moving point is as shown in the following figure. The maximum acceleration is:

- (a) 1 m/s^2 (b) 2 m/s^2 (c) 3 m/s^2 (d) 4 m/s^2

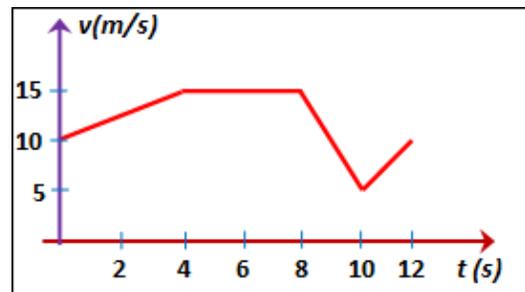
13. In the given graph the retardation is:

- (a) 1 m/s^2 (b) 2 m/s^2 (c) 3 m/s^2 (d) 4 m/s^2



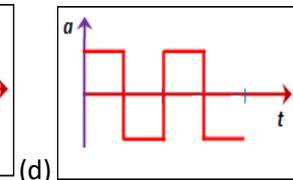
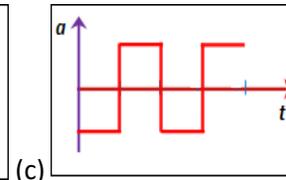
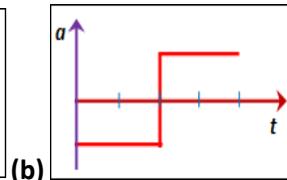
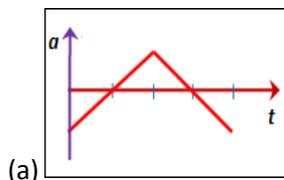
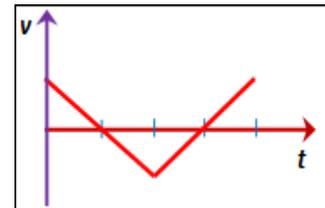
14. From the graph given, the acceleration of the particle at $t = 9$ sec is:

- (a) Zero (b) -2 m/s^2 (c) -5 m/s^2 (d) $+5 \text{ m/s}^2$

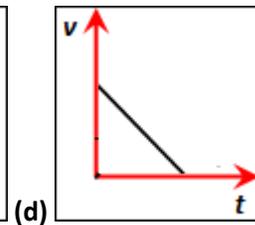
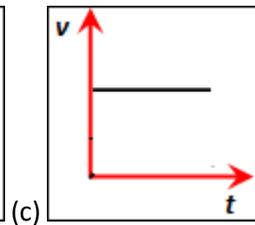
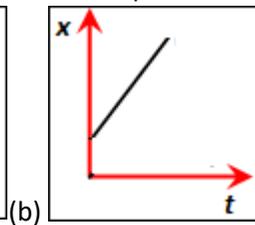
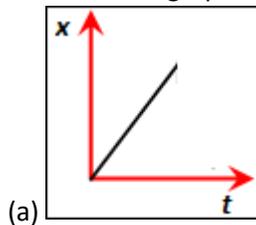


15. The graph below shows the velocity versus time graph for a body.

Which of the following graphs represents the corresponding acceleration vs. time graph?

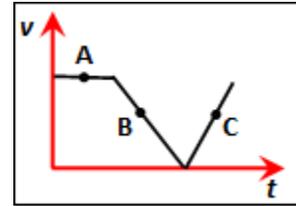


16. Which of the graphs does not represent uniform motion?

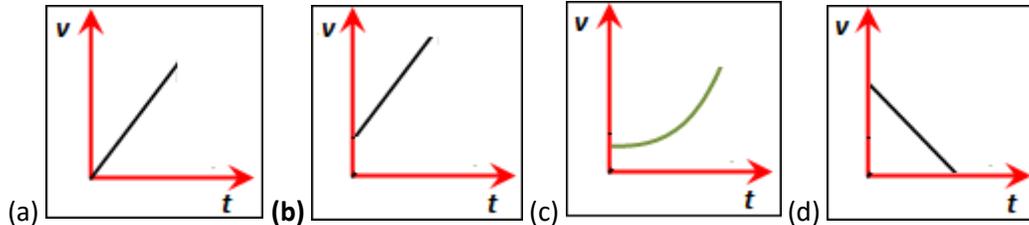


17. The velocity-time graph of a body is shown in the fig. It implies that at point B.

(a) The force is zero (b) There is a force towards motion (c) There is a force which opposes motion (d) There is only gravitational force

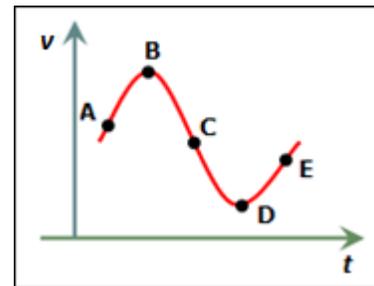


18. A particle moves along X-axis in such a way that its X-coordinate varies with time t according to the equation, $x = 4t + 6t^2$ metres. The velocity of the particle will vary with time according to which of following graphs?



19. The velocity-time graph of moving particle is shown in the figure. The instantaneous acceleration of the particle is negative at the point:

(a) A (b) B (c) C (d) E



20. Velocity time graph for two boys P and Q is as shown. If they are walking on parallel tracks, mark the incorrect statement:

(a) Distance covered by them at $t = 2$ hr are same (b) At some instant between $t = 1$ hr and $t = 2$ hrs, they have same speed (c) P and start at the same instant but with different initial speed (d) Acceleration of P is twice that of Q

