ARJUNA (NEET)

P XI M1 Pg47

Kinematics

DPP-02

1. A car moves for hall of its time at 80 km/h and for rest half of time at 40 km/h. Total distance covered is 60 km. What is the average speed of the car:

(A) 60 km/h (B) 80 km/h
(C) 120 km/h (D) 180 km/h

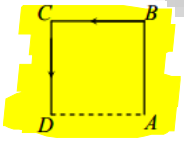
2. The ratio of the numerical values of the average velocity and average speed of a body is always:

(A) Unity (B) Unity or less
(C) Unity or more (D) Less than unity

3. If a car covers 2/5th of the total distance with v_1 speed and 3/5th distance with v_2 then average speed is :

(A) $\frac{1}{2}\sqrt{v_1 v_2}$ (B) $\frac{v_1+v_2}{2}$
(C) $\frac{2v_1v_2}{v_1+v_2}$ (D) $\frac{5v_1v_2}{3v_1+2v_2}$

4. A particle moves along the sides AB, BC, CD of a square of side 25 m with a velocity of 15 ms^{-1}. Its average velocity is :



(A) 15 ms^{-1} (B) 10 ms^{-1}
(C) 7.5 ms^{-1} (D) 5 ms^{-1}

5. A particle moves along a semicircle of radius 10 m in 5 seconds. The average velocity of the particle is:

(A) 2π ms^{-1} (B) 4π ms^{-1}
(C) 2 ms^{-1} (D) 4 ms^{-1}

6. A car travels from place A to the place B at 20 km/hour and returns at 30 km/hour. The average speed of the car for the whole journey is-

(A) 25 km/hour (B) 24 km/hour
(C) 50 km/hour (D) 5 km/hour

7. A particle is executing a circular motion of radius R with a uniform speed *v*. After completing half the circle, the change in velocity and in speed will be respectively -

(A) zero, zero (B) 2*v*, zero
(C) 2*v*, 2*v* (D) zero, 2*v*

8. Object is moving with constant velocity then acceleration of object :

(A) may uniform
(B) may variable
(C) must be zero
(D) may be zero

9. Position of object is given as function of time $x = t^2 - 2t + 4$ find velocity at $t = 2$ sec.

(A) 2 m/s (B) 4 m/s
(C) zero (D) 6 m/s

10. Average velocity in a time interval zero then in same time interval average speed is:

(A) must be zero
(B) may be zero
(C) must be non-zero
(D) may be –ve

11. Object is moving with constant speed then velocity of object :

(A) may be variable
(B) must be constant
(C) must be variable
(D) may be zero

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12. Object is moving with constant velocity the speed of object :

(A) may be variable

(B) may be constant

(C) must be variable

(D) must be constant

ANSWERS

1. **(A)**
2. **(B)**
3. **(D)**
4. **(D)**
5. **(D)**
6. **(B)**
7. **(B)**
8. **(C)**
9. **(A)**
10. **(B)**
11. **(A)**
12. **(D)**

Note - If you have any query/issue

Mail us at support@physicswallah.org