

Motion in a Straight Line

Question 1.

A boy starts from a point A, travels to a point B at a distance of 3 km from A and returns to A. If he takes two hours to do so, his speed is

- (a) 3 km/h
- (b) zero
- (c) 2 km/h
- (d) 1.5 km/h

▼ Answer

Answer: (a) 3 km/h

Question 2.

A body starts from rest and travels with uniform acceleration a to make a displacement of 6 m. If its velocity after making the displacement is 6 m/s, then its uniform acceleration a is

- (a) 6 m/s²
- (b) 2 m/s²
- (c) 3 m/s²
- (d) 4 m/s²

▼ Answer

Answer: (c) 3 m/s²

Question 3.

Which one of the following is the unit of acceleration?

- (a) m/s
- (b) m/s²
- (c) km/hr
- (d) cm/s

▼ Answer

Answer: (b) m/s²

Question 4.

The dimensional formula for speed is

- (a) T⁻¹
- (b) LT⁻¹
- (c) L⁻¹T⁻¹
- (d) L⁻¹T

▼ Answer

Answer: (b) LT⁻¹

Question 5.

A body starts from rest and travels for t second with uniform acceleration of 2 m/s². If the displacement made by it is 16 m, the time of travel t is

- (a) 4 s
- (b) 3 s

- (c) 6 s
- (d) 8 s

▼ Answer

Answer: (b) 3 s

Question 6.

The dimensional formula for acceleration is

- (a) $[LT^2]$
- (b) $[LT^{-2}]$
- (c) $[L^2T]$
- (d) $[L^2T^2]$

▼ Answer

Answer: (b) $[LT^{-2}]$

Question 7.

A body starts from rest and travels for five seconds to make a displacement of 25 m .if it has travelled the distance with uniform acceleration a then a is

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

▼ Answer

Answer: (c) 2 m/s^2

Question 8.

A 180 metre long train is moving due north at a speed of 25 m/s. A small bird is flying due south, a little above the train, with a speed of 5 m/s. The time taken by the bird to cross the train is

- (a) 10 s
- (b) 12 s
- (c) 9 s
- (d) 6 s

▼ Answer

Answer: (d) 6 s

Question 9.

The dimensional formula for velocity is

- (a) $[LT]$
- (b) $[LT^{-1}]$
- (c) $[L^2T]$
- (d) $[L^{-1}T]$

▼ Answer

Answer: (b) $[LT^{-1}]$

Question 10.

A body starts from rest and travels with an acceleration of 2 m/s^2 . After t seconds its velocity is 10 m/s. Then t is

- (a) 10 s
- (b) 5 s
- (c) 20 s
- (d) 6 s

▼ Answer

Answer: (b) 5 s

Question 11.

The dimensional formula for velocity is

- (a) [LT]
- (b) [LT⁻¹]
- (c) [L²T]
- (d) [L⁻¹T]

▼ Answer

Answer: (b) [LT⁻¹]

Question 12.

A body starts from rest and travels with uniform acceleration of 2 m/s². If its velocity is v after making a displacement of 9 m, then v is

- (a) 8 m/s
- (b) 6 m/s
- (c) 10 m/s
- (d) 4 m/s

▼ Answer

Answer: (b) 6 m/s

Question 13.

Which one of the following is the unit of velocity?

- (a) kilogram
- (b) metre
- (c) m/s
- (d) second

▼ Answer

Answer: (c) m/s

Question 14.

Which one of the following is the unit of acceleration?

- (a) m/s
- (b) m/s²
- (c) km/hr
- (d) cm/s

▼ Answer

Answer: (b) m/s²

Question 15.

The dimensional formula for acceleration is

- (a) [LT2]
- (b) [LT?2]
- (c) [L2T]
- (d) [L2T2]

▼ Answer

Answer: (b) [LT?2]

Question 16.

A boy moves on a circular distance of radius R. Starting from a point A he moves to a point B which is on the other end of the diameter AB. The ratio of the distance travelled to the displacement made by him is

- (a) $\pi/2$
- (b) π
- (c) 2π
- (d) 4π

▼ Answer

Answer: (a) $\pi/2$

Question 17.

A boy starts from a point A, travels to a point B at a distance of 3 km from A and returns to A. If he takes two hours to do so, his speed is

- (a) 3 km/h
- (b) zero
- (c) 2 km/h
- (d) 1.5 km/h

▼ Answer

Answer: (a) 3 km/h

Question 18.

A boy starts from a point A, travels to a point B at a distance of 1.5 km and returns to A. If he takes one hour to do so, his average velocity is

- (a) 3 km/h
- (b) zero
- (c) 1.5 km/h
- (d) 2 km/h

▼ Answer

Answer: (a) 3 km/h

Question 19.

A body starts from rest and travels for t second with uniform acceleration of 2 m/s^2 . If the displacement made by it is 16 m, the time of travel t is

- (a) 4 s
- (b) 3 s
- (c) 6 s
- (d) 8 s

▼ Answer

Answer: (a) 4 s

Question 20.

A body starts from rest and travels with uniform acceleration on a straight line . If its velocity after making a displacement of 32 m is 8 m/s , its acceleration is

- (a) 1 m/s²
- (b) 2 m/s²
- (c) 3 m/s²
- (d) 4 m/s²

▼ [Answer](#)

Answer: (a) 1 m/s²

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