

CBSE Class 11 Science Worksheet

1.

A boat going northwards crosses a river flowing east wards. If the boat velocity of the boat in still water is 6m/s and the river flows with 8m/s . At what angle will the boat move in the river as viewed from the land at the starting point.

A)

30°

B)

37°

C)

53°

D)

60°

2.

The area of acceleration-displacement curve of a body gives

A)

Impulse

B)

Change in momentum per unit mass

C)

Change in Kinetic energy per unit mass

D)

Total change in energy

3.

The sum and difference of two vectors \vec{A} and \vec{B} are $2i + 6j + k$ and $4i + 2j - 11k$. The value of scalar product of \vec{A} and \vec{B} are

A)

9

B)

12

C)

-25

D)

-15

4.

A block is sliding down a smooth incline with inclination 37° . Find the final velocity of the block at the bottom of the incline if it covered 9m in 1 sec from the start point and the total time taken by the block to come down the incline is 2.5 sec. Take $g=10\text{m/s}^2$.

A)

6 m/s

B)

12 m/s

C)

21 m/s

D)

3 m/s

5.

If two body A and B of mass 5kg and 15kg are dropped freely from same height h. Which of them will hit the ground First?

A)

A of 5 kg

B)

B of 15 Kg

C)

Both at same time

D)

Insufficient data

6. Two runners run towards each other with 5m/s. If the first runner is at 10m from the second then after what time will they again have 10m distance between them after crossing each other? Assume they run with constant velocity.

A)

1 sec

B)

2 sec

C)

3 sec

D)

4 sec

7. The sum of the magnitudes of two forces acting at a point is 16N. If the resultant force is 8N and its direction is perpendicular to minimum force then forces are

A)

6N and 10N

B)

8N and 8N

C)

4N and 12N

D)

2N and 4N

8.

A man walks at a speed of 6 Km/hr for 1 km and 8 km/hr for next 1 km. What is his average speed for the walk of 2 km?

A)

8 km/hr

B)

7 km/hr

C)

3 km/hr

D)

4 km/hr

9.

The rate of change of displacement is called

A)

Speed

B)

Acceleration

C)

Velocity

D)

Depends on the problem

10.

A gun moving at a speed of 30m/sec fires at an angle 30° with a velocity 150m/s relative to the gun. Find the distance between the gun and the projectile when projectile hits the ground. ($g = 10 \text{ m/sec}^2$)

A)

1260 m

B)

1890 m

C)

1950 m

D)

2125 m

11.

A Jogger jogging along at 8.0 ft/sec, comes up beside the Mad Bomber just as he lights the fuse on his bomb. Joe, trying to get away, sprints to 38ft/ sec by the time the bomb explodes. If the bomb was not thrown and had an accurate 2.0 second fuse, a. What was Joe's average acceleration? b. How far did Joe get from the bomb before it exploded?

A)

a) 15 ft/s²

b) 46 ft

B)

a) 14 ft/s²

b) 25 ft

C)

a) 10ft/s²

b) 46 ft

D)

a) 10 ft/s²

b) 44 ft

12.

Find the kinetic energy (in J) of a 4kg body which started moving from rest and covered 10m in 5 sec.

A)

8

B)

16

C)

4

D)

32

13.

The horizontal component of velocity is 3ms^{-1} . What is the range of projectile? Take $g=10\text{ms}^{-2}$

A)

1.8m

B)

3.6m

C)

2.7m

D)

4.5m

14.

Kinematic equations can be used whenever a body is accelerated.

A) True

B) False

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Answers

1. Option C
2. Option C
3. Option C
4. Option C
5. Option C
6. Option B
7. Option A
8. Option B
9. Option C
10. Option C
11. Option A
12. Option D
13. Option B
14. Option B

Solution:

Kinematic equations are used when acceleration is constant or zero.