



# PHYSICS

## BOOKS - NCERT EXEMPLAR

### MOTION AND TIME

#### Multiple Choice Questions

1. Which of the following cannot be used for measurement of time?

A. A leaking tap.

B. Simple pendulum.

C. Shadow of an object during the day.

D. Blinking of eyes.

**Answer: A**



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**2.** Two clocks A and B are shown in Figure 13.1.

Clock A has an hour and a minute hand, whereas clock B has an hour hand, minute

hand as well as a second hand. Which of the following statement is correct for these clocks?



(A)



(B)

A. A time interval of 30 seconds can be measured by clock A.

B. A time interval of 30 seconds cannot be measured by clock B.

C. Time interval of 5 minutes can be measured by both A and B.

D. Time interval of 4 minutes 10 seconds can be measured by clock A.

**Answer: C**



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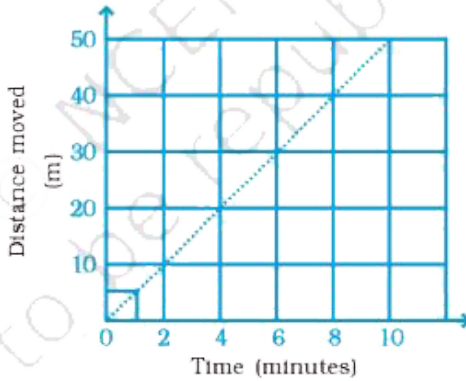
**3.** Two students were asked to plot a distance-time graph for the motion described by Table A and Table B.

**Table A**

Distance moved (m)	0	10	20	30	40	50
Time (minutes)	0	2	4	6	8	10

**Table B**

Distance moved (m)	0	5	10	15	20	25
Time (minutes)	0	1	2	3	4	5



The graph given in Figure 13.2 is true for

- A. both A and B.
- B. A only.
- C. B only.

D. neither A nor B.

**Answer: A**



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4. A bus travels 54 km in 90 minutes. The speed of the bus is

A.  $0.6m / s$

B.  $10m / s$

C.  $5.4m / s$

D.  $3.6m / s$

**Answer: B**



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5. If we denote speed by  $S$ , distance by  $D$  and time by  $T$ , the relationship between these quantities is

A.  $S = D \times T$

B.  $T = \frac{S}{D}$

C.  $T=D/S$

D.  $S=D-T$

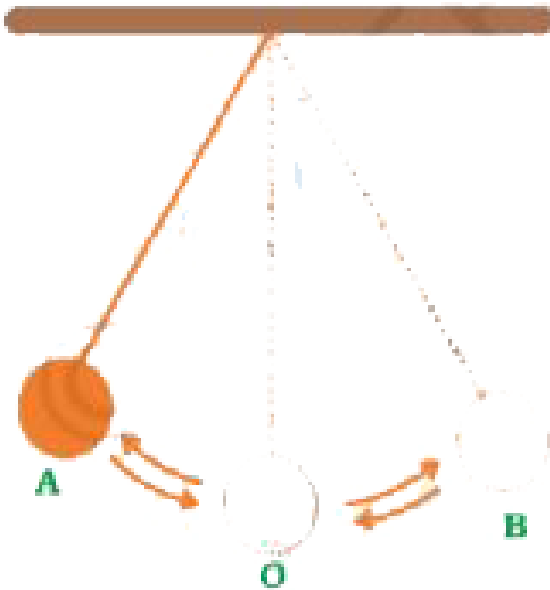
**Answer: C**



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6. Observe Figure 13.3.



The time period of a simple pendulum is the time taken by it to travel from

A. A to B and back to A.

B. O to A, A to B and B to A.

C. B to A, A to B and B to O.

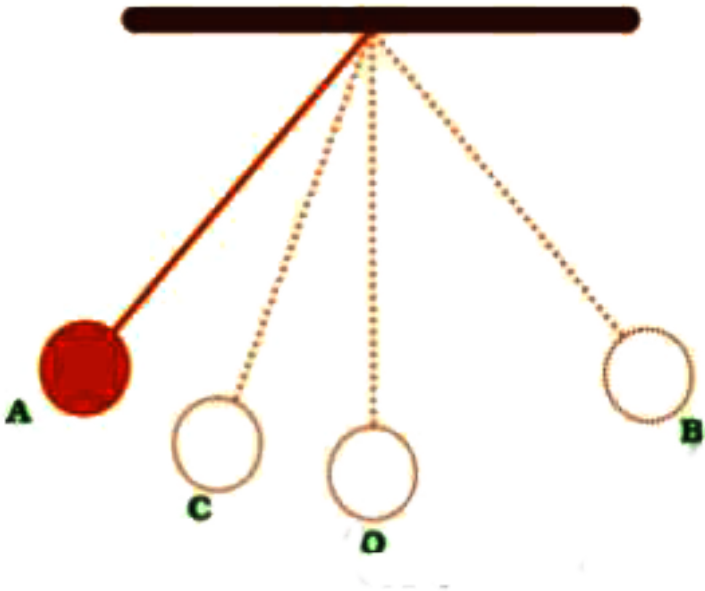
D. A to B.

**Answer: A**



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7. shows an oscillating pendulum.



Time taken by the bob to move from A to C is  $t_1$  and from C to O is  $t_2$ . The time period of this simple pendulum is

A.  $(t_1 + t_2)$

B.  $2(t_1 + t_2)$

C.  $3(t_1 + t_2)$

D.  $4(t_1 + t_2)$

**Answer: D**



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**8.** The correct symbol to represent the speed of an object is

A.  $5m / s$

B. 5mp

C.  $5m / s^{-1}$

D.  $5s / m$

**Answer: A**



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9. Boojho walks to his school which is at a distance of 3 km from his home in 30 minutes. On reaching he finds that the school is closed and comes back by a bicycle with his friend

and reaches home in 20 minutes. His average speed in km/h is

A. 8.3

B. 7.2

C. 5

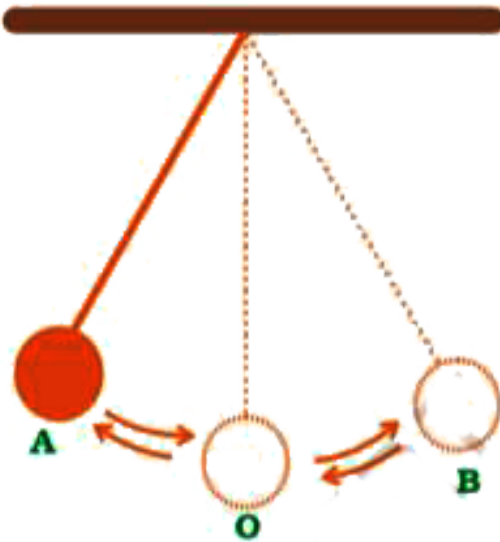
D. 3.6

**Answer: B**



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**10.** A simple pendulum is oscillating between two points A and B as shown in Figure 13.5. Is the motion of the bob uniform or non-uniform?



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**11.** Paheli and Boojho have to cover different distances to reach their school but they take the same time to reach the school. What can you say about their speed?



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**12.** If Boojho covers a certain distance in one hour and Paheli covers the same distance in two hours, who travels in a higher speed?

A. Paheli



B. Boojho

C. Both

D. None of the above

**Answer: B**



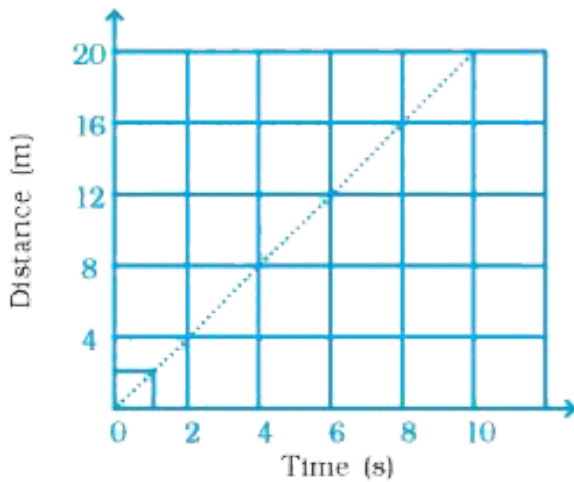
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## Short Answer Questions

1. Complete the data of the table given below with the help of the distance-time graph given

in

Distance (m)	0	4	?	12	?	20
Time (s)	0	2	4	?	8	10



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2. The average age of children of Class VII is 12 years and 3 months. Express this age in seconds.



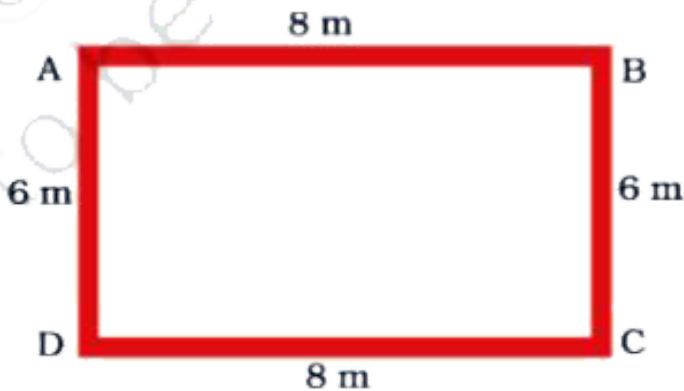
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3. A spaceship travels 36,000 km in one hour. Express its speed in km/s.



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4. Starting from A, Paheli moves along a rectangular path ABCD as shown in Figure 13.7. She takes 2 minutes to travel each side. Plot a distance-time graph and explain whether the motion is uniform or non-uniform.



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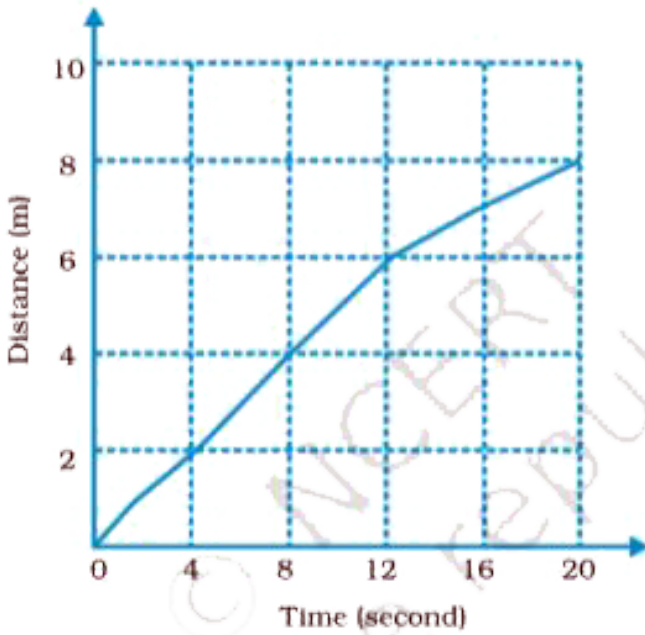
5. Plot a distance-time graph of the tip of the second hand of a clock by selecting 4 points on x-axis and y-axis respectively. The circumference of the circle traced by the second hand is 64 cm.



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## Long Answer Questions

1. Given below as Figure 13.8 is the distance-time graph of the motion an object.



- (i) What will be the position of the object at 20s?
- (ii) What will be the distance travelled by the object in 12s?
- (iii) What is the average speed of the object?



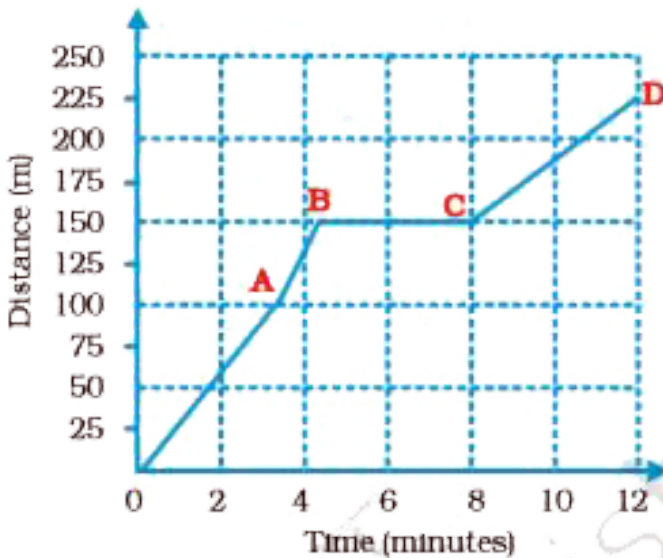
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2. Distance between Bholu's and Golu's house is 9 km. Bholu has to attend Golu's birthday party at 7 o'clock. He started from his home at 6 o'clock on his bicycle and covered a distance of 6 km in 40 minutes. At that point he met Chintu and he spoke to him for 5 minutes and reached Golu's birthday party at 7 o'clock. With what speed did he cover the second part of the journey? Calculate his average speed for the entire journey.



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3. Boojho goes to the football ground to play football. The distance- time graph of his journey from his home to the ground is given as



- (a) What does the graph between point B and C indicate about the motion of Boojho?
- (b) Is the motion between 0 to 4 minutes



uniform or non- uniform?

(c) What is his speed between 8 and 12 minutes of his journey?



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