

Short Answer Questions

Q.1. Distinguish between uniform and non-uniform motion.

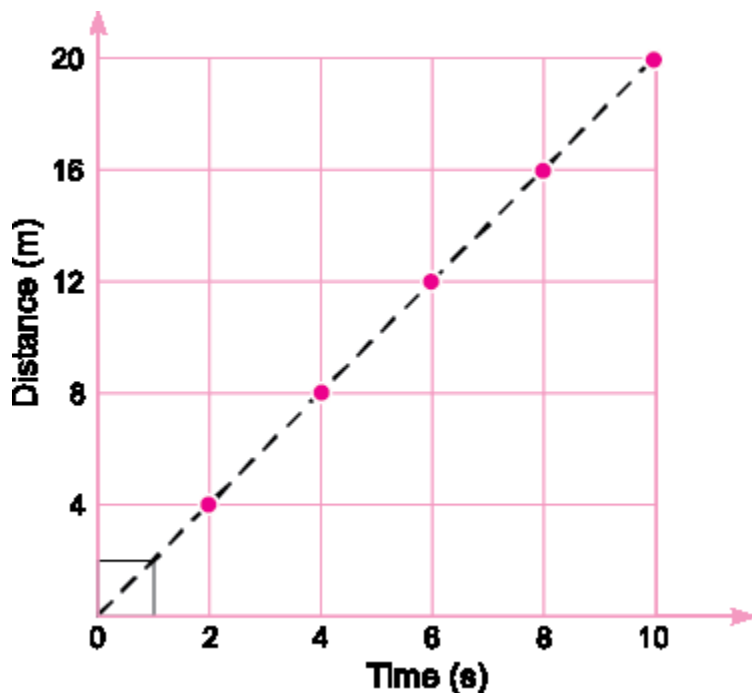
Ans. If a body covers equal distance in equal intervals of time, it is said to be in a uniform motion. For example, a car moving along a straight line. If a body covers unequal distance in equal intervals of time, it is said to be in non-uniform motion. For example, a racing horse.

Q.2. Explain with the help of an example that the states of rest and motion are relative terms.

Ans. When you are driving a car, the car is said to be in motion because it is moving relative to the road but you are said to be at rest because you are at rest relative to the moving car.

Q.3. Complete the data of the table given below with the help of the distance-time graph given in figure.

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



[NCERT Exemplar]

Q.4. The average age of children of Class VII is 12 years and 3 months. Express this age in seconds.

[NCERT Exemplar]

Ans. 12 years 3 months = $12 \times 365 + 3 \times 30 = 4470$ days
= $4470 \times 24 \times 60 \times 60$ s
= 386208000 s

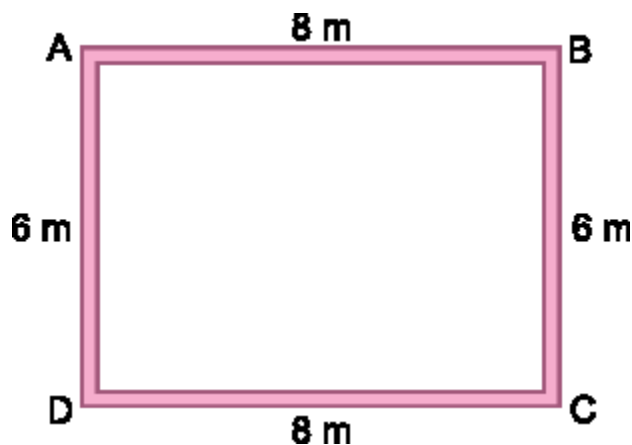
Q.4. A spaceship travels 36,000 km in one hour. Express its speed in km/s.

[NCERT Exemplar]

Ans.

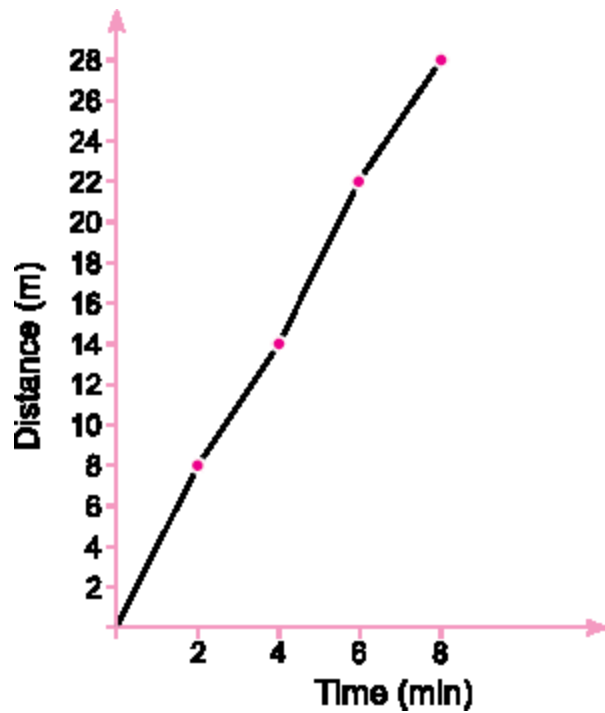
$$36,000 \text{ km/h} = \frac{36,000 \text{ km}}{60 \times 60 \text{ s}} = 10 \text{ km/s}$$

Q.6. Starting from A, Paheli moves along a rectangular path ABCD as shown in figure below. She takes 2 minutes to travel each side. Plot a distance-time graph and explain whether the motion is uniform or non-uniform.



[NCERT Exemplar]

Ans. Since the distance covered per unit time for the entire distance covered is not the same, the motion is non-uniform.



Q.7. 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.

[NCERT Exemplar]

Ans.

Time (s)	x	15	30	45	60
Distance (cm)	y	16	32	48	64

