

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Motion and Time

Q1. The following Fig. shows the distance-time graph for the motion of two vehicles A and B. Which one of them is moving faster?

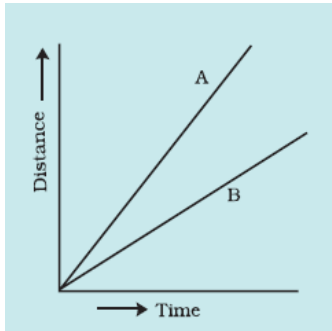


Image from NCERT

Ans. \_\_\_\_\_  
\_\_\_\_\_

Q2. Classify the following as motion along a straight line, circular or oscillatory motion:

- (i) Motion of your hands while running. \_\_\_\_\_
- (ii) Motion of a horse pulling a cart on a straight road. \_\_\_\_\_
- (iii) Motion of a child in a merry-go-round. \_\_\_\_\_
- (iv) Motion of a child on a see-saw. \_\_\_\_\_
- (v) Motion of the hammer of an electric bell. \_\_\_\_\_
- (vi) Motion of a train on a straight bridge. \_\_\_\_\_

Q3. The odometer of a car reads 57321.0 km when the clock shows the time 08:30 AM. What is the distance moved by the car, if at 08:50 AM, the odometer reading has changed to 57336.0 km? Calculate the speed of the car in km/min during this time. Express the speed in km/h also.

Ans. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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Q1. The following Fig. shows the distance-time graph for the motion of two vehicles A and B. Which one of them is moving faster?

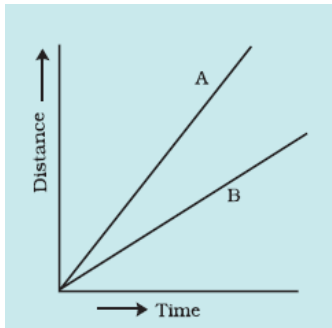


Image from NCERT

Ans. Vehicle A is moving faster. Speed of the vehicle is greater if it covers maximum distance in a given interval of time.

Q2. Classify the following as motion along a straight line, circular or oscillatory motion:

- (i) Motion of your hands while running. Oscillatory motion
- (ii) Motion of a horse pulling a cart on a straight road. Straight line
- (iii) Motion of a child in a merry-go-round. Circular motion
- (iv) Motion of a child on a see-saw. Oscillatory motion
- (v) Motion of the hammer of an electric bell. Oscillatory motion
- (vi) Motion of a train on a straight bridge. Straight line

Q3. The odometer of a car reads 57321.0 km when the clock shows the time 08:30 AM. What is the distance moved by the car, if at 08:50 AM, the odometer reading has changed to 57336.0 km? Calculate the speed of the car in km/min during this time. Express the speed in km/h also.

Ans. Distance covered = 57336 - 57321 = 15 km  
Time taken = 8:50 - 8:30 = 20 min

$$\text{Speed} = \frac{\text{Distance}}{\text{Time Taken}} = \frac{15}{20} = 0.75 \text{ km/m}$$

Now, convert 20 min into hour = 20/60 = 1/3 h

$$\text{Speed} = \frac{\text{Distance}}{\text{Time Taken}} = \frac{15}{1/3} = 45 \text{ km/h}$$