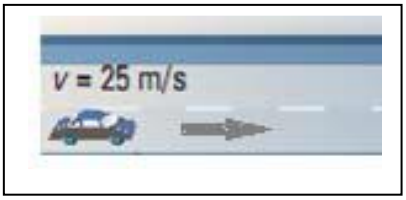
# Question bank 4. Acceleration

## Question 1

**A car takes 300 km in 6 hours on a straight road to the south.**
**a) What is the velocity of the car?**
**b) How many kilometers does the car take in half an hour?**

## Question 2

**The car shown in the figure has a velocity of 25 m/s.**
**a) What distance does the car cover, if it moves with this velocity for 10 minutes? (1 min = 60 seconds)**
**b) In how many seconds does the car cover a distance of 1 km?**




## Question 3

**A bicycle rider uniformly moves with a speed of 24 m/s for 6 seconds. Calculate the distance covered by the rider.**

## Question 4

**A dog runs 45 meters due to east for 10 seconds and then runs 15 meters due west for 20 seconds.**
**A) What is the dog's average velocity?**
**B) What is the dog`s average speed?**

## Question 5

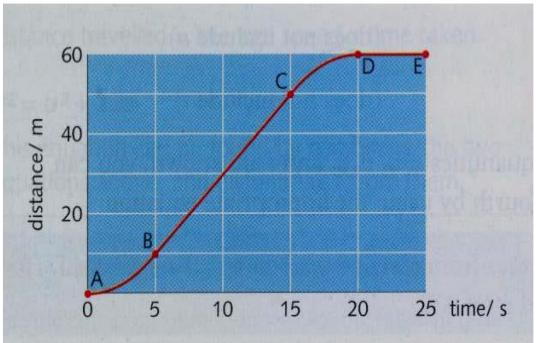
**Answer the questions below according to the graph.**

**a. between which points is its speed steady?**

**b. what is the steady velocity?**

**c. what is the distance travilled between D and A?**

**d. what is the avrage speed between D**



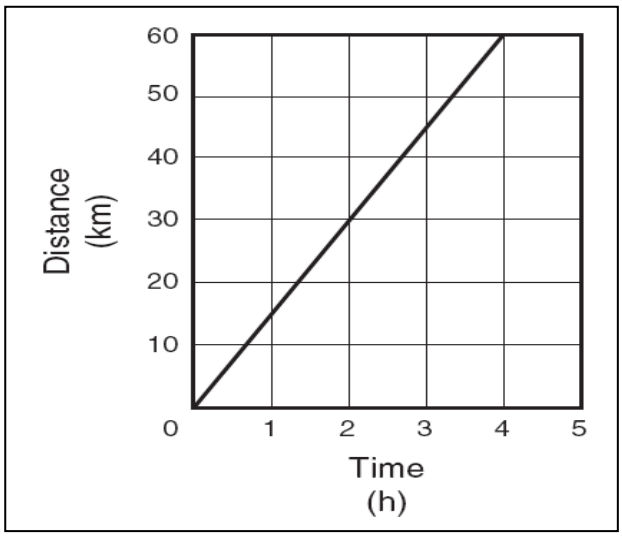

The distance–time graph above is for a motor cycle travelling along a straight road.

## Question 6

**The figure on the right shows the distance-time graph of car moving.**

**a) Calculate the velocity of the car.**

**b) If the car moves with this velocity for 20 hours, what distance does the car cover?**




## Question 7

**Using the position-time graph given below, calculate**

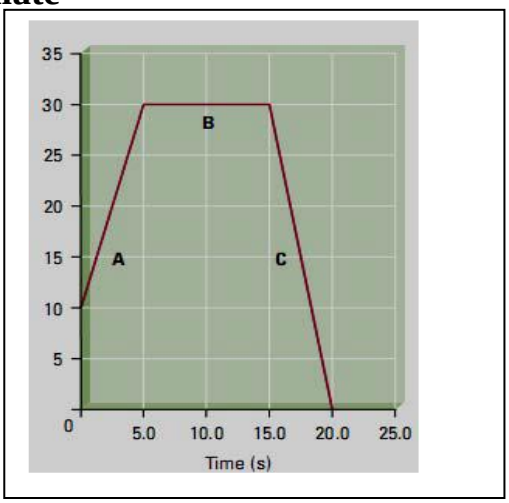
**The velocity of the moving object between the Intervals:**

**a) 0 - 5s**

**b) 5 - 15s**

**c) 15-20s**

**d) 0 - 20s**




## Question 8

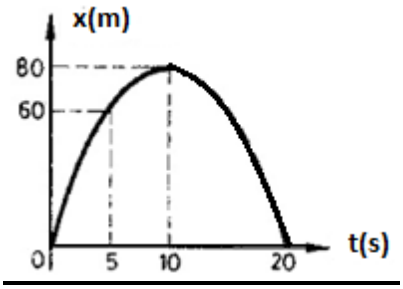
**An airplane flies at 200 m/s in the direction 53° counter clockwise from east.**

**a) What is the component of the displacement on the east axis? (Take, t = 2s)**

**b) What is the component of the displacement on the north axis? (Take, t = 2s)**

**Question 9**

**The position-time graph below shows the motion of a car. Interpret the graph of the car.**




**Question 10**

**The car X moves with 20 m/s and Y with 10 m/s in the same direction for 50 seconds.**

**a) Draw position –time graph of the cars.**

**b) Calculate how many metres they take during the motion.**

**Question 11**

**A car is moving with 24 m/s initial speed then it stops. If the car stops in 8 seconds find;**

**a) Acceleration**

**b) Breaking distance (distance to stop)**

**Question 12**

**A ball initially at rest rolls down a hill and has an acceleration of 3 m/s$^2$.**

**a) If it accelerates for 10 s, how far will it move during this time?**

**b)What will be the final velocity?**

**Question 13**

**An antelope moving with constant acceleration covers the distance between two points 70.0 m apart in 7.00 s. Its speed as it passes the second point is 15m/s (a) What is its speed at the first point? (b) What is its acceleration?**