



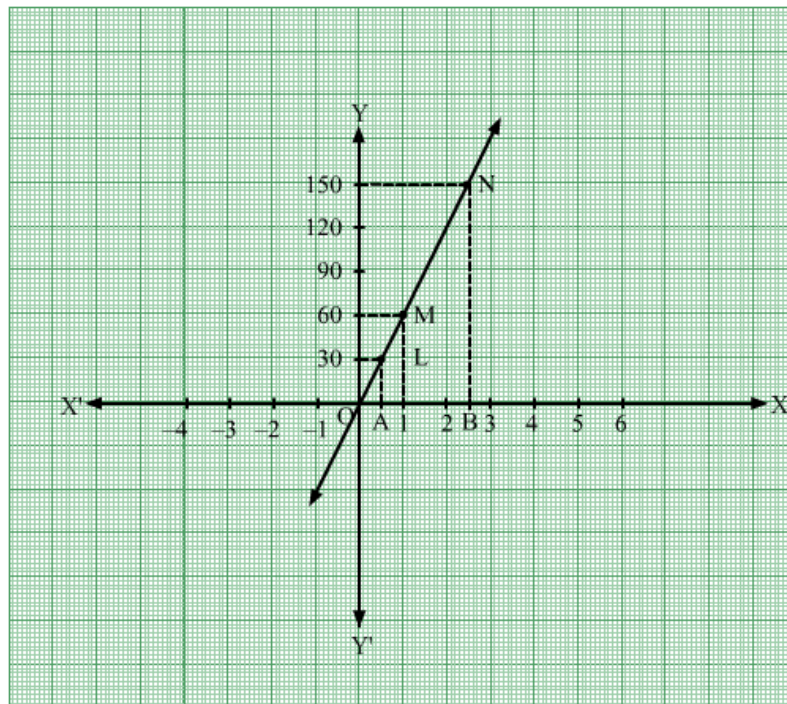
Linear Equations in Two Variables Ex 13.3 Q21

Answer :

Aarushi is driving the car with the uniform speed of 60 km/h.

We represent time on X-axis and distance on Y-axis

Now, graphically



We are given that the car is travelling with a uniform speed 60 km/hr. This means car travels 60 km distance each hour. Thus the graph we get is of a straight line.

Also, we know when the car is at rest, the distance travelled is 0 km, speed is 0 km/hr and the time is also 0 hr.

Thus, the given straight line will pass through $O(0,0)$ and $M(1,60)$.

Join the points O and M and extend the line in both directions.

Now, we draw a dotted line parallel to y-axis from $x = \frac{1}{2}$ that meets the straight line graph at L from which we draw a line parallel to x-axis that crosses y-axis at 30. Thus, in $\frac{1}{2}$ hr, distance travelled by the car is 30 km.

Now, we draw a dotted line parallel to y-axis from $x = 2\frac{1}{2}$ that meets the straight line graph at N from which we draw a line parallel to x-axis that crosses y-axis at 150. Thus, in $2\frac{1}{2}$ hr, distance travelled by the car is 150 km.

(i) Distance = Speed \times Time

Distance travelled in $2\frac{1}{2}$ hours is given by

$$\text{Distance} = 60 \times 2\frac{1}{2}$$

$$\text{Distance} = 60 \times \frac{5}{2}$$

$$\boxed{\text{Distance} = 150 \text{ km}}$$

(ii) Distance = Speed \times Time

Distance travelled in $\frac{1}{2}$ hours is given by

$$\text{Distance} = 60 \times \frac{1}{2}$$

$$\boxed{\text{Distance} = 30 \text{ km}}$$

***** END *****