Direct and Inverse Variations Ex 10.1 Q11

Answer:

Distance (in km)	50	x
Time (in minute)	60	12

Let the distance be x km.
If the time taken is less, the distance covered will also be less.
Therefore, it is a direct variation.
$50 : x = 60 : 12$
$\Rightarrow \frac{50}{x} = \frac{60}{12}$
Applying cross muliplication, we get :
$x = \frac{50 \times 12}{60}$
$= 10$
Thus, the required distance will be 10 km.

Direct and Inverse Variations Ex 10.1 Q12

Answer:

Number of Boxes	68	x
Shelf-length (in m)	13.6	20.4

Let x be the number of boxes that occupy a shelf-length of 20.4 m.

If the length of the shelf increases, the number of boxes will also increase.
Therefore, it is a case of direct variation.
$\frac{68}{x} = \frac{13.6}{20.4}$
$\Rightarrow 68 \times 20.4 = x \times 13.6$
$\Rightarrow x = \frac{68 \times 20.4}{13.6}$
$= \frac{1387.2}{13.6}$
$= 102$
Thus, 102 boxes will occupy a shelf − length of 20.4 m.

Direct and Inverse Variations Ex 10.1 Q13

Answer:

Number of copies	136	x
Length the shelf (in m)	3.4	5.1

Let x be the number of copies that would occupy a shelf-length of 5.1 m.

Since the number of copies and the length of the shelf are in direct variation, we have :
$\frac{136}{x} = \frac{3.4}{5.1}$
$\Rightarrow 136 \times 5.1 = x \times 3.4$
$\Rightarrow x = \frac{136 \times 5.1}{3.4}$
$= 204$
Thus, 204 copies will occupy a shelf of length 5.1 m.

Direct and Inverse Variations Ex 10.1 Q14

Answer :

Let Rs x be the fare for a journey of 139.2 km.

Distance (in km)	240	139.2
Fare (in Rs.)	15	x

Since the distance travelled and the fare are in direct variation, we have :

$\frac{240}{139.2} = \frac{15}{x}$

$\Rightarrow 240 \times x = 15 \times 139.2$

$\Rightarrow x = \frac{15 \times 139.2}{240}$

$= \frac{2088}{240}$

$= 8.7$

Thus, the fare for a journey of 139.2 km will be Rs 8.70.

Direct and Inverse Variations Ex 10.1 Q15

Answer :

Let x cm be the thickness of a pile of 294 cardboards.

Thickness (in cm)	3.5	x
Cardboard	12	294

Since the pile of the cardboards and its thickness are in direct variation, we have :

$\frac{3.5}{x} = \frac{12}{294}$

$\Rightarrow 3.5 \times 294 = x \times 12$

$\Rightarrow x = \frac{3.5 \times 294}{12}$

$= \frac{1029}{12}$

$= 85.75$ cm

Thus, the thickness of a pile of 294 cardboards will be 85.75 cm $\Big($or 857.5 mm$\Big)$.

********** END *********