

Direct and Inverse Variations Ex 10.1 Q1 Answer:

When two variables are connected to each other in such a way that if we increase the value of one variable, the value of other variable also increases and vice — versa. Similarly, if we decrease the value of one variable, the value of other variable also decreases and vice — versa.

Therefore, if the ratio between two variables remains constant, it is said to be in direct variation.

Direct and Inverse Variations Ex 10.1 Q2

Answer:

- (i) The number of articles is directly related to the price. Therefore, they will vary directly with each other
- (ii) The number of articles is directly related to the weight of the articles. Therefore, they will vary directly with each other.
- (iii) Speed is constant. Therefore, distance and time does not vary directly.
- (iv) The number of hours is directly related to the wages. Therefore, it is a direct variation.
- (v) Distance is constant. Therefore, speed and time does not vary directly.
- (vi) If the area of a land is large, its cost will also be high. Thus, it is a direct variation.

Thus, the respective values in (i), (ii), (iv) and (vi) vary directly with each other.

Direct and Inverse Variations Ex 10.1 Q3 Answer:

If x and y vary directly, the ratio of the corresponding values of x and y remain s constant.

In all the cases, the ratio is the same. Therefore, x and y vary directly.

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 $\frac{x}{y} = \frac{2}{6} = \frac{1}{3}$ $\frac{x}{y} = \frac{3}{9} = \frac{1}{3}$ $\frac{x}{y} = \frac{4}{12} = \frac{1}{3}$ $\frac{x}{y} = \frac{5}{17} = \frac{5}{17}$ $\frac{x}{y} = \frac{6}{20} = \frac{3}{10}$ In all the cases, the ratio is not the same. Therefore, x and y do not vary directly

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Thus, in (i) and (ii), x and y vary directly.

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