

## Direct Variation Assignment

For the data in each table, tell whether  $y$  varies directly with  $x$ . If it does, write an equation for the direction equation.

1.

$x$	$y$
4	6
7	10.5
-2	-3

2.

$x$	$y$
6	-6.9
-10	-11.5
7	-8.05

Determine whether each equation represents a direct variation or not. If it does, find the constant of variation.

1.  $3y = 4x$

2.  $4x = 6y + 33$

3.  $3y - 7 = 2x - 7$

4.  $y - 12 = 12x$

## **Direct Variation** Assignment

Assume that  $y$  varies directly with  $x$ . Write an equation relating  $x$  and  $y$  in each case. Also find the value of  $y$  when  $x$  is 6.

1.  $y = 10$  when  $x = 5$

2.  $y = 6$  when  $x = 18$

3.  $y = -\frac{4}{5}$  when  $x = -4$

**Direct Variation** Assignment

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1.

$x$	$y$
4	6
7	10.5
-2	-3

The ratio  $\frac{y}{x} = \frac{6}{4} = 1.5 = \frac{10.5}{7} = 1.5 = \frac{-3}{-2}$

The ratio is constant, so it is a direct variation.

Equation:  $y = 1.5x$

2.

$x$	$y$
6	-6.9
-10	-11.5
7	-8.05

The ratio  $\frac{y}{x} = \frac{-6.9}{6} = -1.15 \neq \frac{-11.5}{-10}$

The ratio is not constant, so it is not a direct variation.

Determine whether each equation represents a direct variation or not. If it does, find the constant of variation.

1.  $3y = 4x$

$$y = \frac{4}{3}x$$

Yes it represents a direct variation.

$$k = \frac{4}{3}$$

2.  $4x = 6y + 33$

It cannot be written in the form  $y = kx$

It does not represent a direct variation.

3.  $3y - 7 = 2x - 7$

$$3y = 2x - 7 + 7$$

$$y = \frac{2}{3}x$$

Yes it represents a direct variation.

$$k = \frac{2}{3}$$

4.  $y - 12 = 12x$

It cannot be written in the form  $y = kx$

It does not represent a direct variation.

## Direct Variation Assignment

Assume that  $y$  varies directly with  $x$ . Write an equation relating  $x$  and  $y$  in each case. Also find the value of  $y$  when is 6.

1.  $y = 10$  when  $x = 5$

$$k = \frac{y}{x} = \frac{10}{5} = 2$$

$$y = 2x$$

$$\text{When } x = 6$$

$$y = 2(6) = 12$$

2.  $y = 6$  when  $x = 18$

$$k = \frac{y}{x} = \frac{6}{18} = \frac{1}{3}$$

$$y = \frac{1}{3}x$$

$$\text{When } x = 6$$

$$y = \frac{1}{3}(6) = 2$$

3.  $y = -\frac{4}{5}$  when  $x = -4$

$$k = \frac{-4/5}{-4} = \frac{1}{5}$$

$$y = \frac{1}{5}x$$

$$\text{When } x = 6$$

$$y = \frac{1}{5}(6) = \frac{6}{5}$$