

Direct Variation

If y varies directly as x then $y = kx$, where k is the constant of variation.

$$x + y = 20$$

$$xy = 20$$

$$\frac{x}{y} = 20$$

1. Find the constant of variation if the first variable varies directly as the second variable.

a) $x = 15, y = 3$

b) $a = -120, b = 30$

c) $y = 4.5, x = 15$

d) $A = 212, P = 200$

2. Determine if y varies directly as x . If it does, find the constant of variation.

a)

| | | | |
|-----|----|----|-----|
| x | 2 | 6 | 10 |
| y | -3 | -9 | -15 |

b)

| | | | |
|-----|---|---|----|
| x | 4 | 5 | 6 |
| y | 6 | 8 | 10 |

3. If y varies directly as x , find the missing value.

a) $y = 14$ when $x = 2$. Find x when $y = 21$.

b) $y = 35$ when $x = -5$. Find y when $x = -20$.