

# Direct and Inverse Proportion

A directly proportional relationship follows the rule:

$$y = kx$$

where  $k$  is a constant multiplier

if  $y = 10$  when  $x = 2$

we can find  $k$ :

$$10 = 2k$$

$$k = 5$$

The formula is therefore:

$$y = 5x$$

An inverse proportional relationship follows the rule:

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

where  $k$  is a constant multiplier

if  $y = 10$  when  $x = 2$

we can find  $k$ :

$$10 = \frac{k}{2}$$

$$k = 20$$

The formula is therefore:

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