

## Indirect Variation $xy = k$

If you want to go 40 miles/hour for 3 hours, the constant of proportionality,  $k$  is  $40(3) = 120$ . If you the rate increases to 60 miles/hour multiplied by the time should also be 120. So, the time would be 2 hours.

Setting the problem up like we did for a direct variation, we now have

$$xy = k$$

$$40(3) = k, \text{ so } k = 120$$

$$60(x) = 120$$

$$\text{so } x = 2$$