

October 12, 2012

Section 6.7

Variation

$K = \text{constant}$

If y varies directly as x $\rightarrow y = k \cdot x$

If y varies inversely as x $\rightarrow y = \frac{k}{x}$

If y varies jointly as x & z $\rightarrow y = kxz$

① Set up the equation with k

② Use the first set of data to find k

③ Rewrite the equation with new value for k

④ Find any requested info

②⑧ P varies jointly as ~~the~~ R and the square of S

$$\begin{array}{l} y = kxz \\ \boxed{P = k \cdot R \cdot S^2} \end{array} \checkmark$$

③⑩ y varies inversely as the square of x :
 $y = 0.011$ when $x = 10$

① $y = \frac{k}{x^2}$

$0.011 = \frac{k}{10^2}$

③ $\boxed{y = \frac{1.1}{x^2}}$ \checkmark
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② $y = 0.011$
 $x = 10$

$1.1 = k$

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C varies jointly as w & T

① $C = k \cdot wT$

② $C = 60$
 $w = 200$
 $T = 2$

$$60 = k(200)(2)$$
$$\frac{60}{400} = 0.15 = k$$

③ $C = 0.15wT$

④ $C =$
 $w = 240$
 $T = 3$

$$C = 0.15(240)(3)$$
$$C = 108$$

108 cars

