

$$2x - 5y = 15$$

$$\frac{-5y}{-5} = \frac{-2x + 15}{-5}$$

$$y = \frac{2}{5}x - 3$$

⊥ Slope  $m = -\frac{5}{2}$   $(5, -2)$

## 1.4 Direct Variation

$$d = rt$$

$$d = 70t$$

t	d
1	70
2	140
3	210
4	280

k is  
constant  
of variation

$$y = kx$$

or  
constant of  
proportionality

$$\frac{d}{t} = \frac{140}{2} = \frac{210}{3}$$

$$y = mx$$

$$y = 70x + 0$$

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

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

$$y = 2 \text{ when } x = 1$$

Find constant of variation

$$k = 2$$

$$y = kx$$

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

$$2 = k(1)$$

$$k = \frac{2}{1}$$

$$2 = k$$

Write the direct variation equation

$$y = kx$$

$$y = 2x$$

$$x = \frac{1}{4}$$

$$y = 12$$

Find  $k$

$$y = kx$$

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

$$4 \cdot 12 = k \left( \frac{1}{4} \right) \cdot \frac{4}{1}$$

$$48 = k$$

Equation

$$y = 48x$$

$y$  varies directly as  $x$

$$y = kx$$

$A$  varies directly as  $l$

$$A = kl$$

$$A = wl$$



a varies directly as b  
 $a = kb$

~~If  $a = 6.3$  when  $b = 70$~~

~~Find  $b$  when  $a = 5.4$~~

$$a = kb$$

$$\frac{6.3}{70} = k \left( \frac{70}{70} \right)$$

$$\rightarrow .09 = k$$

Solve for k

$$5.4 = .09b$$

$$\frac{5.4}{.09} = \frac{.09b}{.09}$$

$$60 = b$$

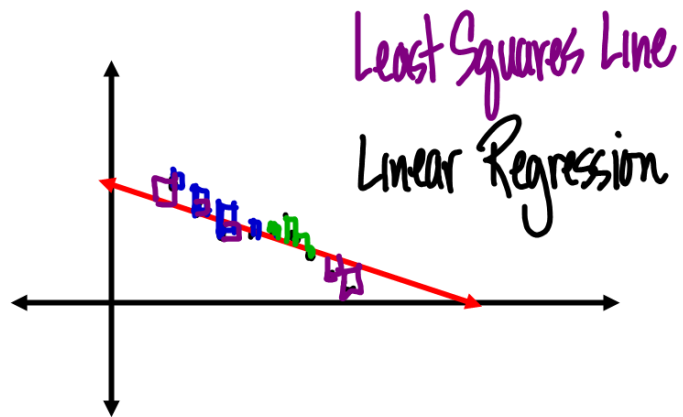
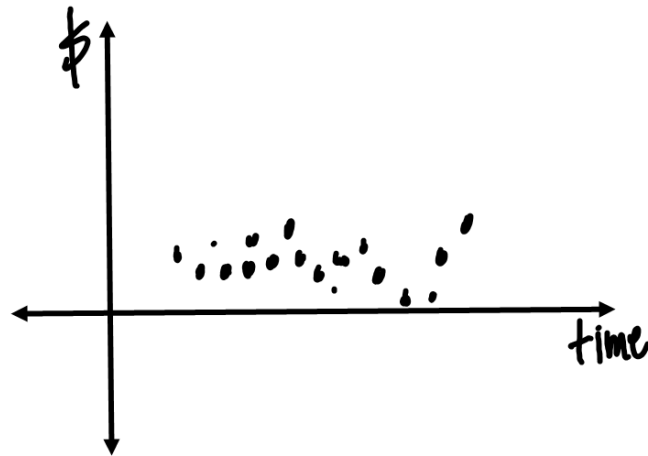
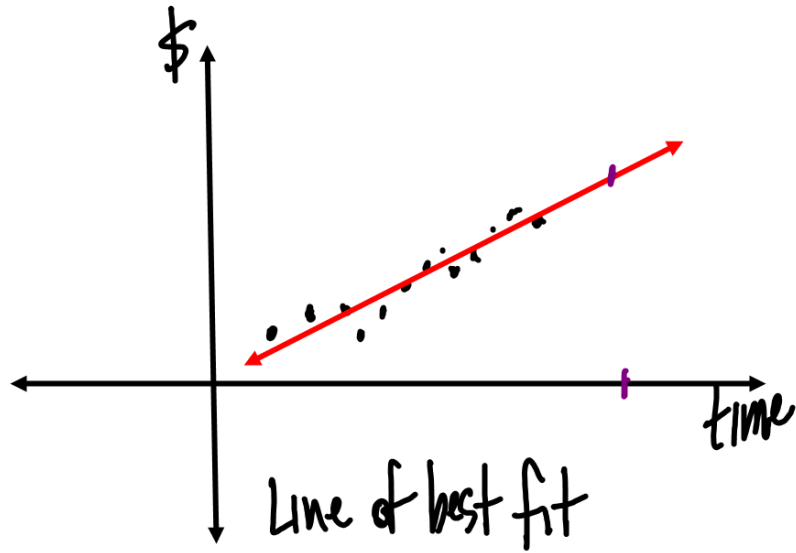
$$b = 60$$

$$a = 6.3 \quad b = 70$$

$$\frac{6.3}{70} = \frac{5.4}{b}$$

$$6.3b = 70(5.4)$$

$$b = 60$$



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