

Rate of Change = $\frac{\text{change in } y}{\text{change in } x}$

Unit 2.3 Slope = $\frac{y_2 - y_1}{x_2 - x_1}$

#1)

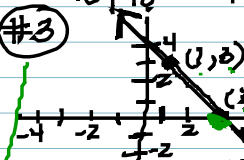
x	1	2	3
y	6	8	10

 (1, 6) (3, 10)
 $\frac{10 - 6}{3 - 1} = \frac{4}{2} = 2$

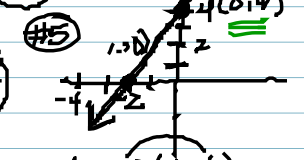
#2)

x	5	10	15
y	16	32	48

 (5, 16) (15, 48)
 $\frac{48 - 16}{15 - 5} = \frac{32}{10} = \frac{16}{5} = 3.2$

#3) 
 (1, 3) (3, 0)
 $\frac{0 - 3}{3 - 1} = \frac{-3}{2}$

#4) $(-3, -4) (-2, 5)$
 $\frac{5 - (-4)}{-2 - (-3)} = \frac{9}{-1} = -9$

#5) 
 (-2, 0) (0, 4)
 $\frac{4 - 0}{0 - (-2)} = \frac{4}{2} = 2$

Unit 2.4 Writing Linear Equations pg 84

$y = mx + b$

Ex #1A) $m = \frac{4}{3}, (0, 4)$
 $y = \frac{4}{3}x + b$
 $4 = \frac{4}{3}(0) + b$
 $4 = 0 + b$
 $4 = b$
 $y = \frac{4}{3}x + 4$

Ex #2) $y = \frac{3}{4}x - 5, \parallel$ through (3, 7) $\perp (3, 7)$
 $y = \frac{3}{4}x + b$ $b = 11$
 $7 = \frac{3}{4}(3) + b$
 $7 = \frac{9}{4} + b$
 $7 - \frac{9}{4} = b$
 $\frac{28}{4} - \frac{9}{4} = b$
 $\frac{19}{4} = b$
 $y = \frac{3}{4}x + \frac{19}{4}$

\perp lines = opp. rec. slope
 \parallel lines = same slope

Rate of Change = $\frac{\text{change in } y}{\text{change in } x}$

Unit 2, 3 Slope = $\frac{y_2 - y_1}{x_2 - x_1}$

#1

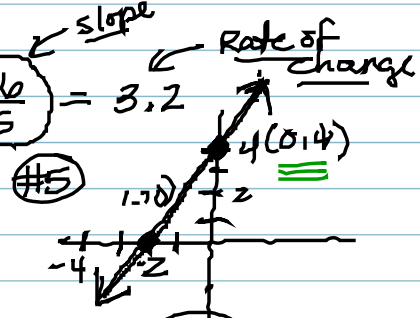
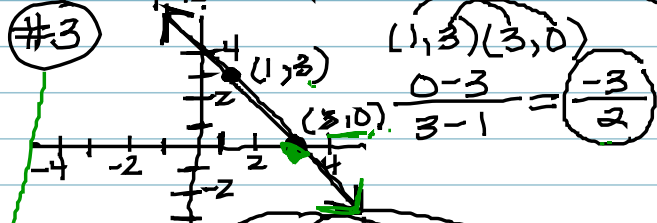
Day	1	2	3
	6	8	10

(1, 6) (3, 10)
 $\frac{10 - 6}{3 - 1} = \frac{4}{2} = 2$

#2

x	y
5	16
10	32
15	48

(5, 16) (15, 48)
 $\frac{48 - 16}{15 - 5} = \frac{32}{10} = \frac{16}{5} = 3.2$



#4

(-3, -4) (-2, 5)
 $\frac{5 - (-4)}{-2 - (-3)} = \frac{9}{1} = 9$

Unit 2.4 Writing Linear Equations. pg 84

$y = mx + b$ $y = mx + b$ Ex #1A) $m = \frac{4}{3}, (0, 4)$
 $y = -\frac{3}{2}x + b$ $y = 2x + b$ $y = \frac{4}{3}x + b$
 $0 = -\frac{3}{2}(3) + b$ $4 = 2(0) + b$ $4 = (\frac{4}{3})0 + b$ $m = 2$ $\frac{1}{2}$
 $0 = -\frac{9}{2} + b$ $4 = 0 + b$ $4 = b$ $m = -3$ $\frac{1}{3}$
 $4.5 = +4.5$ $4 = b$ $y = \frac{4}{3}x + 4$ $m = -\frac{2}{3}$ $\frac{3}{2}$

$4.5 = b$
 $y = -\frac{3}{2}x + 4.5$

$y = 2x + 4$

// lines = same slope
 ⊥ lines = opp. rec. slope

Ex #2) $y = \frac{3}{4}x - 5$, // through (3, 7) ⊥ (3, 7)

$y = \frac{3}{4}x + b$ $b = 4\frac{3}{4}$ x y $y = -\frac{4}{3}x + b$
 $7 = \frac{3}{4}(3) + b$ $y = \frac{3}{4}x + 4\frac{3}{4}$ $7 = -\frac{4}{3}(3) + b$
 $7 = \frac{9}{4} + b$ $y = -\frac{4}{3}x + 11$ $7 = -4 + b$
 $-\frac{9}{4}$ $-\frac{9}{4}$ $+4$ $+4$