

$y = mx + b$
 $y = 2x + b$ passes through $(4, 12)$ plus in these values are solve for b .
 $12 = 2(4) + b$
 $12 = 8 + b$ $b = 4$
 $y = 2x + 4$

17. passing through $(0, 15)$ and $(5, 3)$
 $0, 15$ oh yeah that is the y -intercept $(0, b)$
 $b = 15$.
 I can find the slope by finding the difference in y 's compared to the difference in x
 $(0, 15)$ $(5, 3)$
 (x_1, y_1) (x_2, y_2) $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{3 - 15}{5 - 0} = \frac{-12}{5}$
 $y = -\frac{12}{5}x + 15$
18. passing through $(-2, 2)$ and $(5, -11)$
 because we don't determine the y -intercept

19. parallel lines what is true of slopes
 parallel to the line with equation $y = 15 - 2x$
 and passing through $(3, 0)$
 A slopes of all lines are equal so the slope of the new line is -2
 using this information and the pts provided we can know solve for b .
 $y = -2x + b$
 $0 = -2(3) + b$ plus in values $(3, 0)$
 $0 = -6 + b$ (x, y)
 $+6$ $+6$ add 6 to each side to isolate b
 $b = 6$ $y = -2x + 6$

38.

x	-5	-2	1	4
y	7	-2	-11	-20

a.

$$y = -3(x) - 8$$

$$y = -3(-5) - 8$$

$$y = 15 - 8$$

$$y = 7$$

$$y = -3(-2) - 8$$

$$y = 6 - 8$$

$$y = -2$$

$$y = -3(1) - 8$$

$$y = -3 - 8$$

$$y = -3 + -8$$

$$y = -11$$

$$y = -3(4) - 8$$

$$y = -12 - 8$$

$$y = -20$$

63

cal.

$$C = 5000 + 150h$$

use the formula to find cost then increase it by 20%

100 feet

$$C = 5000 + 150(100) \uparrow 20\%$$

$$C = 5000 + 15,000$$

$$= 20,000 \uparrow 20\% \quad 20\% \text{ of } 20,000 = 4,000$$

$$\left(\frac{20}{100}\right) 20,000 = 4,000$$

24,000

$$C = 5000 + 15(200) \uparrow 20\%$$

$$C = 5000 + 45,000$$

$$= 50,000 + 20\% \quad 20\% \text{ of } 50,000 = 10,000$$

60,000

$$y = \frac{36,000}{100}x + b$$

100	24,000
200	60,000
400	78,000

$$C = 5,000 + 150L$$

$$C = 5,000 + 150(400)$$

$$C = 5,000 + 60,000$$

$$C = 65,000 + 20\%$$

$$65,000 \times .20 = 13,000$$

$$78,000$$

$$y = \frac{36,000}{100}x + b$$

$$y = 360x + b \quad \text{use } (100, 24,000)$$

$$24,000 = 360(100) + b$$

$$24,000 = 36,000 + b$$

$$-12,000 = b$$

$$y = 360x + -12,000 \quad \text{wow}$$