# Chapter 6 Qwest Review

Write the following lines in **slope-intercept form** and **point slope form** given the following information. Then, **graph** the line.

$m = -2$

$(3, -1)$

$y = mx + b$

$-1 = -2(3) + b$

$-1 = -6 + b$

$+6 \quad +6$

$5 = b$

$m = -2 \quad b = 5$

$y = -2x + 5$

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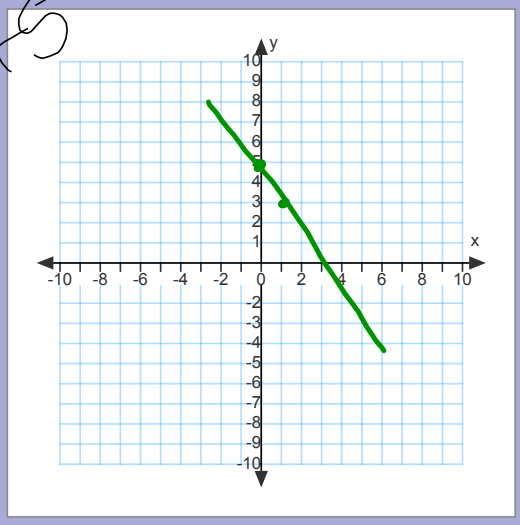


$y - y_1 = m(x - x_1)$

$y - 1 = -2(x - 3)$

$y + 1 = -2(x - 3)$

Find the slope of a line that goes through the points (-5 , 4) and (3 , -7).

$$m = \frac{y_1 - y_2}{x_1 - x_2} \text{ or } \frac{y_2 - y_1}{x_2 - x_1}$$

$$\frac{-7-4}{3+5} = \frac{-11}{8}$$

Write the equation of a line if

m=-1/3 and it goes through the point (12 , -4)

$y-y_1=m(x-x_1)$

$y=mx+b$

$-4=-\frac{1}{3}\left(\frac{12}{1}\right)+b$

$-4=-\frac{12}{3}+b$

$-4=-4+b$

$+4 \quad +4$

$0=b$

$y=-\frac{1}{3}x$

Find the equation of a line in slope intercept form that is parallel to the line y = -2x + 4 and goes through the point (-4 , -5).

$m_{\parallel} = -2$

$y = mx + b$

$-5 = -2(-4) + b$

$-5 = 8 + b$

$-8 \quad -8$

$-13 = b$

$\boxed{y = -2x - 13}$

Find the equation of a line in slope intercept form that is perpendicular to the line y = -2x + 4 and goes through the point (-6 , 2).

$m_{\perp} = \frac{1}{2}$ $(-6, 2)$

$y = mx + b$

$2 = \frac{1}{2}\left(\frac{-6}{1}\right) + b$

$2 = -3 + b$

$+3 \quad +3$

$5 = b$

$y = \frac{1}{2}x + 5$

Write the equation of a line in slope intercept form that goes through the points (7 , -4) and (-3 , -24).

$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-4+24}{7+3} = \frac{20}{10} = 2$

$m = 2 \quad (7, -4)$

$y = 2x + b$

$-4 = 2(7) + b$

$-4 = 14 + b$

$-18 = b$

$y = 2x - 18$