

Algebra 1
Practice problems
Quiz today 4.3-4.4

Ch. 4 MCT 4.1-4.4 Fri.

whiteboards

Example 1

Write an equation of a line in slope-intercept form with slope -5 and y -intercept -3 . Then graph the equation.

$$y = mx + b$$

$$y = -5x + -3$$

Example 2

Write an equation of the line that passes through $(3, 2)$ with a slope of 5.

$$y - y_1 = m(x - x_1)$$
$$y - 2 = 5(x - 3)$$

$$y = mx + B$$

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

Write an equation of the line that passes through the given points.

23. $(2, -1)$, $(5, 2)$

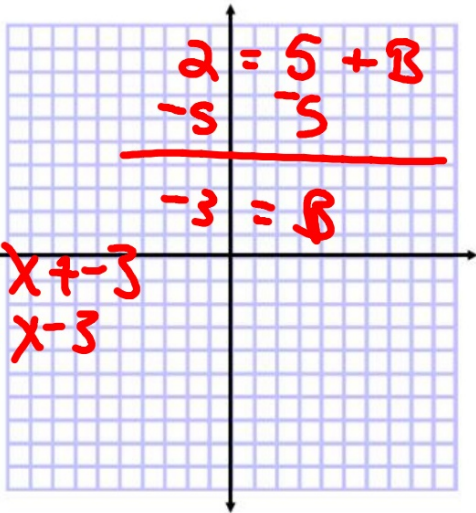
24. $(-4, 3)$, $(1, 13)$

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

$$\frac{13 - 3}{1 - (-4)} = \frac{10}{5} = 2$$

$m = 1$ $2 = 1 \cdot 5 + B$

$y - 3 = 2(x - (-4))$
 $x - -4$



14. Write an equation in point-slope form for the line that passes through the point $(8, 3)$, $m = -2$. (Lesson 4-3)

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

$$\begin{array}{r} y - 3 = -2x + 16 \\ + 3 \qquad \qquad + 3 \end{array}$$

$$y = -2x + 19$$

16. Write $y + 4 = -7(x - 3)$ in slope-intercept form.

(Lesson 4-3)

$$y + 4 = -7x + 21$$

-4 -4

$$y = -7x + 17$$

$$\begin{array}{r} 7x \qquad +7x \\ \hline 7x + y = 17 \end{array}$$

$$Ax + By = C$$

$$y = 4x - 6$$

-4x -4x

$$\frac{-4x}{-1} + \frac{y}{-1} = \frac{-6}{-1}$$

$4x - y = 6$

23. $(0, -3); y = -2x + 4$

parallel

$$-2 \cdot y = \frac{1}{2}x - 5$$

$$Ax + By = C$$

$$\begin{array}{r} 2y = 1x - 10 \\ -x \quad -x \\ \hline \end{array} \quad \begin{array}{r} -2y = -x + 10 \\ +x \quad +x \\ \hline \end{array}$$

$$x - 2y = 10$$

$$\frac{-x + 2y}{-1 \quad -1} = \frac{-10}{-1}$$

$$x - 2y = 10$$

24. $(-4, -5); -4x + 5y = -6$

$+4x$ $+4x$

perpendicular

m (reciprocal)

$$\frac{5y}{5} = \frac{4x}{5} - \frac{6}{5}$$

~~$$y = \frac{4}{5}x - \frac{6}{5}$$~~

$$y = -\frac{5}{4}x + -10$$

$m = -\frac{5}{4}$

$$y = mx + B$$

$$-5 = -\frac{5}{4}(-4) + B$$

$$-5 = \frac{20}{4} + B$$

$$-5 = 5 + B$$

$$\begin{array}{r} -5 \\ -5 \\ \hline -10 = B \end{array}$$

Standard form:

- in order $Ax + By = C$
- integers
- no GCF (also: A must be pos.)

$$y = \frac{4}{5}x - b \quad (20, 6)$$

$$b = \frac{4}{\cancel{8}} \cdot \cancel{20} + B$$

$$6 = 16 + B$$

$$\begin{array}{r} -16 \quad -16 \\ \hline \end{array}$$

$$-10 = B$$

$$y = \frac{4}{5}x + -10$$

$$y = mx + B$$

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