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.

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

$y - 2 = 5(x - 3)$

$y = mx + B$ $\quad y - y_1 = m(x - x_1)$

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

23. (2, −1), (5, 2) **24.** (−4, 3), (1, 13)

$\frac{2+1}{5-2} = \frac{3}{3}$ $\quad m = 1$ $\quad 2 = 1 \cdot 5 + B$

$2 = 5 + B$

$-5 \quad -5$

$-3 = B$

$y = 1x + -3$

$y = x - 3$

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

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

$x - -4$

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

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

$y - 3 = -2x + 16$

$+3 \qquad +3$

$y = -2x + 19$

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

(Lesson 4-3)

$y + 4 = -7x + 21$

$-4 \quad -4$

$y = -7x + 17$

$+7x \quad +7x$

$7x + y = 17$

$Ax + By = C$

$y = 4x - 6$

$-4x \quad -4x$

$-4x + y = -6$

$\frac{-1}{} \quad \frac{-1}{} \quad \frac{-1}{}$

$4x - y = 6$

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

$-2 \cdot y = \frac{1}{2}x - 5$ $\quad Ax + By = C$

$2y = 1x + -10$ $\quad -2y = -x + 10$

$-x \quad -x$ $\quad +x \quad +x$

$x - 2y = 10$

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

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

perpendicular

m (recip + opp)

$+4x \quad +4x$

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

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

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

$y = mx + B$

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

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

$-5 = 5 + B$

$-5 \quad -5$

$-10 = B$

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

Standard form: $Ax + By = C$

- in order
- integers
- no GCF (also: A must be pos.)

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

$6 = \frac{4}{\cancel{5}} \cdot \cancel{20}^{4} + B$

$6 = 16 + B$

$-16 \quad -16$

$-10 = B$

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

$y = mx + B$

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