Algebra 1: 4.0 Intro Name_____

Writing an Equation in Slope-Intercept Form

Date_____ Period____

Given the slope and y-intercept, write an equation in slope-intercept form.

1) Slope = –5, y-intercept = 3

$y = mx + b$

$y = -5x + 3$

2) Slope = $\frac{3}{2}$, y-intercept = –2

$y = mx + b$

$y = \frac{3}{2}x - 2$

Given a point and the slope, write an equation in slope-intercept form.

3) through: $(2, 4)$, slope = 1

x_1, y_1

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

$y - 4 = 1(x - 2)$

$y - 4 = x - 2$

$+4 \quad +4$

$y = x + 2$

4) through: $(4, 3)$, slope = $\frac{5}{4}$

x_1, y_1

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

$y - 3 = \frac{5}{4}(x - 4)$

$y - 3 = \frac{5}{4}x - 5$

$+3 \quad +3$

$y = \frac{5}{4}x - 2$

Write each of the equations in slope-intercept form.

5) $x + 8y = -16$

$x + 8y = -16$

$-x \quad -x$

$\frac{8y}{8} = \frac{-x}{8} - \frac{16}{8}$

$y = -\frac{1}{8}x - 2$

6) $x - y = -7$

$x - y = -7$

$-x \quad -x$

$\frac{-y}{-1} = \frac{-x}{-1} - \frac{7}{-1}$

$y = x + 7$

7) $y+2=-\frac{3}{4}(x-3)$

$y+2=-\frac{3}{4}x+\frac{9}{4}$

$-2 \quad -2=\frac{8}{4}$

$y=-\frac{3}{4}x+\frac{1}{4}$

8) $y-5=\frac{6}{5}x$

$+5 \quad +5$

$y=\frac{6}{5}x+5$

9) $-3x=3+y$

$-3x=3+y$

$-3 \quad -3$

$-3x-3=y$

or

$y=-3x-3$

10) $2=-y-2x$

$2=-y-2x$

$+y \quad +y$

$y+2=-2x$

$-2 \quad -2$

$y=-2x-2$

Given two points, write an equation in slope-intercept form.

11) through: $(-3, 0)$ and $(4, 1)$ (x_1, y_1 x_2, y_2)

$m=\frac{y_2-y_1}{x_2-x_1}=\frac{1-0}{4-(-3)}=\frac{1}{7}$

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

$y-0=\frac{1}{7}(x-(-3))$

$y=\frac{1}{7}(x+3)$

$y=\frac{1}{7}x+\frac{3}{7}$

12) through: $(0, 2)$ and $(3, 4)$ (x_1, y_1 x_2, y_2)

$m=\frac{4-2}{3-0}=\frac{2}{3}$

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

$y-2=\frac{2}{3}(x-0)$

$y-2=\frac{2}{3}x$

$+2 \quad +2$

$y=\frac{2}{3}x+2$