Name: **Key** Block _____

Review of 4B

Calculator

List two main forms of a linear equation.

Slope intercept form: ____$y = mx + b$____ Point-Slope Form: ____$y - y_1 = m(x - x_1)$____
(also referred to as y = form)

1. Find the point slope form equation of the line that passes through the given points.

a. (-3, 14) and (2, -1) b. (1, 3) and the origin

$y - 14 = -3(x + 3)$ or $y - 3 = 3(x - 1)$ or

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

2. Find the slope intercept form equation of the line that passes through the given points.

a. (3, 5) and (6, 15) b. (2, 7) and the origin

$y = \frac{7}{2}x$

$y = \frac{10}{3}x - 5$

3. Write an equation of the line that contains (4, 5) and has a slope −3 in TWO ways.

$y - 5 = -3(x - 4)$ and $y = -3x + 17$

4. What is the slope of the line that passes through (3, 0) and is parallel to the *y*-axis?

$Undefined$

5. Determine the <u>slope</u>, <u>y-intercept</u>, and <u>x-intercept</u> of the line that passes through the following points or has the equation given.

a. (-2, 3) and (1, 4)

Slope: ____$\frac{1}{3}$____

y-Intercept: ____$(0, \frac{11}{3})$ or $(0, 3\frac{2}{3})$____

x-Intercept: ____$(-11, 0)$____

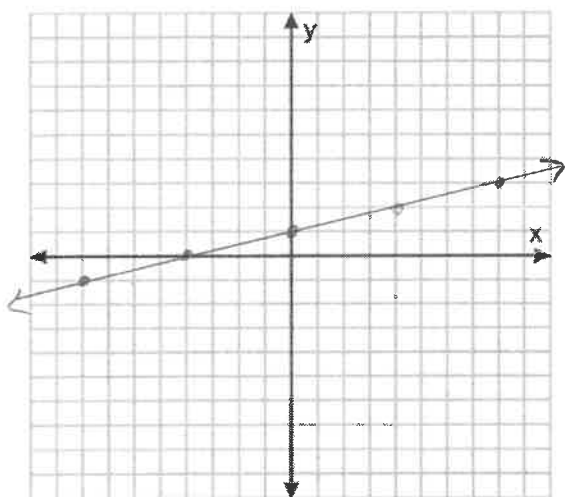b. -8x + 3y = 48

Slope: $\dfrac{8}{3}$

y-Intercept: $(0, 16)$

x-Intercept: $(-6, 0)$

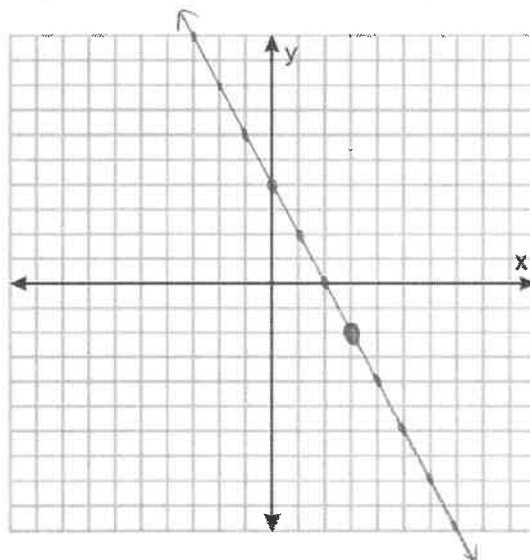6. Write the equation of the line that passes through A(0, 5) and is parallel to the line 6x + 2y = 12.

$$y - 5 = -3x \quad or \quad y = -3x + 5$$
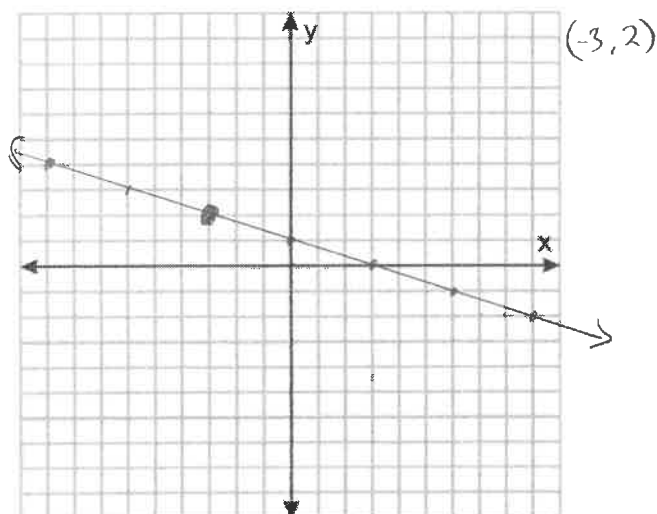
7. Graph the following equations.

a. $y = \frac{1}{4}x + 1$

b. $y + 2 = -2(x - 3)$ $(3, -2)$

a. $\frac{y-2}{x+3} = -\frac{1}{3}$ $y - 2 = -\frac{1}{3}(x+3)$

$(-3, 2)$

b. $3x + y = 4$
$-3x \qquad -3x$
$y = -3x + 4$