

"Worksheet: Finding the Slope and Intercepts of a Linear Equation"

Given the linear equation $3x + 4y = 8$.

To find the x-intercept, put 0 in for y and solve for x.

$$3x + 4(0) = 8$$

$$3x = 8$$

$$x = 8/3$$

The x-intercept is $(8/3, 0)$.

To find the y-intercept, put 0 in for x and solve for y.

$$3(0) + 4y = 8$$

$$4y = 8$$

$$y = 2$$

The y-intercept is $(0, 2)$.

To find the slope, solve the equation for y.

$$3x + 4y = 8$$

$$4y = 8 - 3x$$

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

The slope is the coefficient in front of x. The slope here is $-3/4$.

For each of the following linear equations, find the x- and y- intercepts and the slope of the linear equation. Using the intercepts, graph the linear equation.

1) $12x + 6y = 24$

2) $3x - 6y = -12$

3) $10x + 5y = 8$

4) $-2x - 4y = 16$

5) $3y = -15$

6) $ax + by = c$