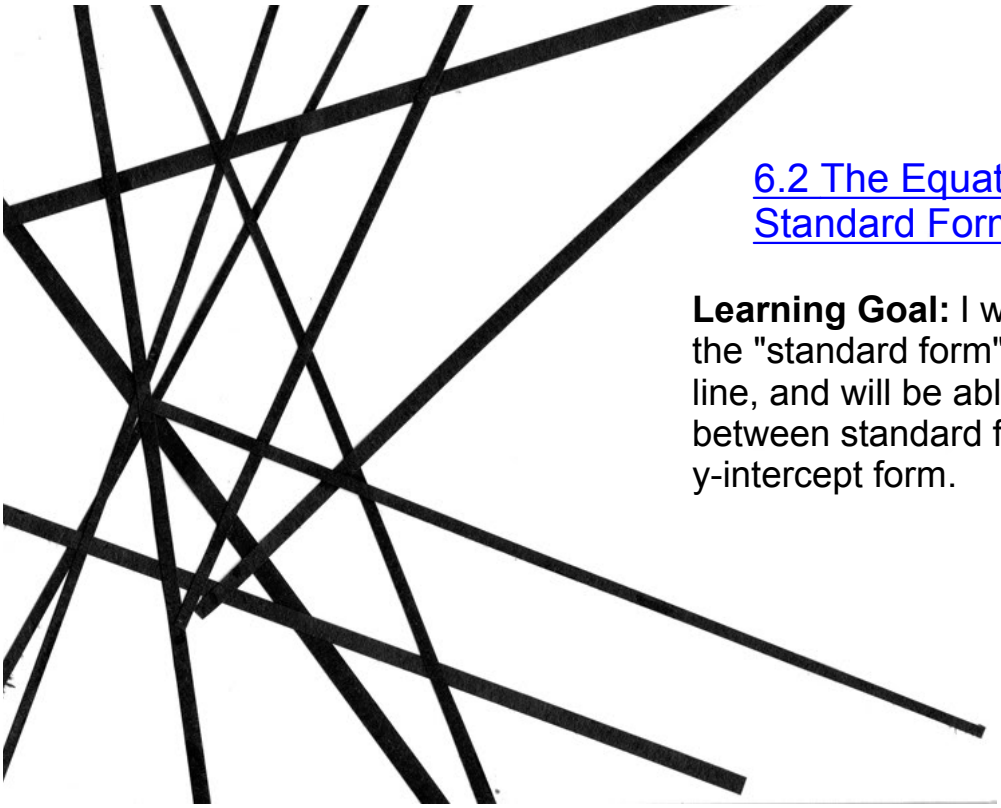


6.2 The Equation of a line in Standard Form.

Learning Goal: I will recognize the "standard form" equation of a line, and will be able to convert between standard form and slope y-intercept form.

The **slope - y - intercept form** of the equation of a line is **y = mx + b**, where m is the slope (given by rise over run, or $m = \frac{y_2 - y_1}{x_2 - x_1}$) and b is the y - intercept.

The **standard form** of the equation of a line is **Ax + By + C = 0**, where A, B, and C are integers and A and B are not both zero (C can be zero, and either A *or* B can be zero).
In standard form, the coefficient of the x-term is always positive and there are no fractions.

You can convert from one form to the other using algebra.

Example 1: Express each equation in the form y = mx + b, then identify the slope and the y - intercept.

a) x + y - 3 = 0

b) x + 2y - 4 = 0

c) 6x - 3y - 15 = 0

d) 2n + 5C - 40 = 0

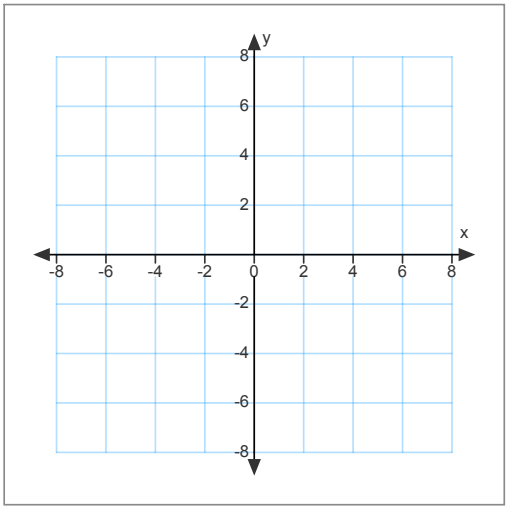
Example 2: Convert the following lines to standard form.

a) y = 3x - 1

b) $y = \frac{2}{3}x - 4$

c) $y = -\frac{1}{3}x + 2$

Example 3: Graph the line 3y + 4x - 12 = 0



Practice: pg 312 #3, 4, 6, 7, 10, 11