Slope Intercept Form of a Linear Equation

The slope intercept form of a linear equation has the following form where the equation is solved for y in terms of x:

$y = a + bx$

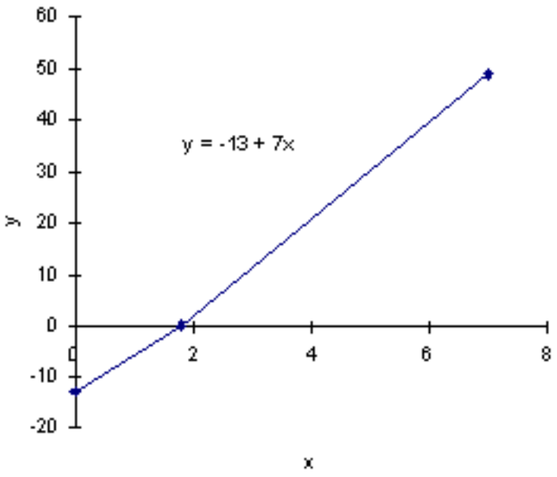
b is the slope

a is a constant term. It is the y intercept, the place where the line crosses the y axis.

Example 1

$y = -13 + 7x$

This equation is in slope intercept form. The y intercept is (0,-13) and the slope is 7.



Example 2

$4x + 3y = 12$

Rewrite this equation in slope intercept form.

$3y = 12 - 4x$

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

The equation is now in slope intercept form. The y intercept is (0,4) and the slope is -4/3.

Example 3

$5x - 3y - 15 = 0$

Rewrite this equation in slope intercept form.

$3y = -15 + 5x$

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

The equation is now in slope intercept form. The y intercept is (0,-5) and the slope is 5/3.

Example 4

$$x = 5 + \frac{2}{3}y$$
$$\frac{2}{3}y = -5 + x$$
$$\frac{2}{3}y\left(\frac{3}{2}\right) = -5\left(\frac{3}{2}\right) + \frac{3}{2}x$$
$$y = -\frac{15}{2} + \frac{3}{2}x$$
$$y = -7.5 + 1.5x$$

The equation is now in slope intercept form. The y intercept is (0,-7.5) and the slope is 1.5.

[Index]
