

Goal: To re-write linear equations in $y = mx + b$ form.

Rewriting Equations in Slope-Intercept Form

The equation of a line written in the form $y = mx + b$ is said to be in **slope-intercept form**. To write an equation in slope-intercept form, you need to **isolate y** by using the properties of equality.

Example:

Rewrite the equation $4x - 2y = 12$ in slope-intercept form.

$$4x - 2y = 12$$

$$\frac{-4x}{-2} = \frac{-4x + 12}{-2}$$

$$\frac{-2y}{-2} = \frac{-4x + 12}{-2}$$

$$y = 2x - 6$$

1. Subtract $4x$ from each side to isolate y .
2. Simplify.
3. Divide each term by -2 to get y by itself.
4. Simplify.

Rewrite each of the following equations in $y = mx + b$ form. Show each step!

1) $x + y = -15$

2) $2y + 8x = 1$

3) $-2x + y = 1$

4) $3y - 2x = 9$

5) $2y = -1x - 8$

6) $y - 4 = -3(x - 3)$

$$7) \quad 0.2x + 0.3y = 0.5$$

$$8) \quad \frac{1}{4}y + 3 = -5x$$

$$9) \quad 3x + 2y = -6$$

$$10) \quad 3y = 2x + 15$$

$$11) \quad y - 4x = 8$$

$$12) \quad y - 8 = -\frac{1}{2}(x + 4)$$

$$13) \quad 3x - 4y = 8$$

$$14) \quad 6x - 2y = 10$$