

Aim: To re-write linear equations in  $y = mx + b$  form (8.EE.6)

### 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.

$$4x - 2y = 12$$

$$\begin{array}{r} -4x \quad -4x \\ \hline -2y = -4x + 12 \end{array}$$

$$\begin{array}{r} -2y = -4x + 12 \\ \hline -2 \quad -2 \quad -2 \end{array}$$

$$y = 2x - 6$$

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)  $0.2x + 0.3y = 0.5$

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

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

10)  $3y = 2x + 15$

11)  $y - 4x = 8$

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

13)  $3x - 4y = 8$

14)  $6x - 2y = 10$

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Rewriting Equations in Slope-Intercept Form Homework

**Rewrite each of the following equations in slope-intercept form:  $y = mx + b$ .**

1)  $8x - 4y = 20$

2)  $2x + 3y = 12$

3)  $2x + y = -11$

4)  $0.8x + 0.4y = 1.2$

5)  $3y = 4x - 27$

6)  $x - 4y = 8$

7)  $y + 9 = 2(x + 5)$

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