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.

\[
4x - 2y = 12 \\
-4x \quad -4x \\
\hline \\
-2y = -4x + 12 \\
\hline \\
-2 \\
\hline \\
y = 2x - 6
\]

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) $6x - 2y = 10$
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) \[ y - 1 = \frac{2}{3}(x + 3) \]