

Warm-Up

Write the *point-slope form* of the equation of the line passing through the points $(-5, 12)$ and $(4, -6)$.

Write the equation above in *slope-intercept form*.

Learning Targets

I can:

write the *point-slope form* of the equation of a line through two points.

rewrite a linear equation in *slope-intercept form*.

rewrite a linear equation in *standard form*.

Point-Slope Form:

$$y - y_1 = m(x - x_1)$$

Slope-Intercept Form:

$$y = mx + b$$

Standard Form:

$$Ax + By = C$$

Rewrite in Slope-Intercept

1) Solve for y .

2) Write terms in order so x is before constant.

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

$$5x + 2y + 4 = x + 18$$

Rewrite in Standard Form

- 1) If needed, distribute.
- 2) Move x and y terms to one side of $=$.
- 3) Move constant term to the other side of $=$.
- 4) If needed, multiply by a common denominator to eliminate the fractions.

$$y + 11 = \frac{4}{5}(x + 15)$$

$$y = -\frac{6}{5}x - 3$$

Write the equation of the line through the points $(1, -10)$ and $(6, 15)$ in all three forms.

Standard

Point-Slope

Slope-Intercept

