

How would you write the equation of the line that passes through the given points in Standard Form? $(4, 1)$ & $(-6, -24)$

Standard Form: $Ax + By = C$
where A, B, and C are integers.

start with Slope-Intercept Form:

$$y = \frac{5}{2}x - 9 \quad \text{move the x-term to the left side of the equation}$$
$$-\frac{5}{2}x \quad -\frac{5}{2}x$$

$$2 \left(-\frac{5}{2}x + y = -9 \right) \quad \text{eliminate the denominator 2 by multiplying both sides of the equation by 2.}$$

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