

3-3 Slope of lines

$$m = \frac{\text{rise}}{\text{run}} = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1}$$

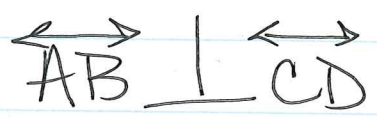
EX Determine whether \overleftrightarrow{AB} and \overleftrightarrow{CD} are \parallel , \perp or neither:

$$A(x_1, y_1) = (-2, -5) \quad B(x_2, y_2) = (4, 7) \quad C(x_1, y_1) = (0, 2) \quad D(x_2, y_2) = (8, -2)$$

$$m_{\overleftrightarrow{AB}} = \frac{7 - (-5)}{4 - (-2)} = \frac{12}{6} = \frac{2}{1}$$

$$m_{\overleftrightarrow{CD}} = \frac{-2 - 2}{8 - 0} = \frac{-4}{8} = \frac{-1}{2}$$

These are opposite reciprocals



EX Graph the line that contains \overleftrightarrow{PQ} and is perpendicular to \overleftrightarrow{JK} with $J(-5, -4)$ and $K(0, -2)$.

