

Standard Form

$$Ax + By = C$$

- Is a whole number
- Positive

Convert each of the following to standard form.

$$\textcircled{1} \quad \frac{y = 2x - 3}{-2x \quad -2x}$$

$$-1(-2x + y = -3)$$

$$\boxed{2x - y = 3}$$

$$\textcircled{2} \quad \frac{y = -2x + 1}{+2x \quad +2x}$$

$$\boxed{2x + y = 1}$$

$$\textcircled{3} \quad \frac{y = -3x + 2}{+3x \quad +3x}$$

$$\boxed{3x + y = 2}$$

$$\textcircled{4} \quad y = \frac{4}{5}x - 5$$

$$\frac{-\frac{4}{5}x \quad -\frac{4}{5}x}{5}$$

$$-5\left(-\frac{4}{5}x + y = -5\right)$$

$$\boxed{4x - 5y = 25}$$

$$5) m = \frac{3}{5}, (0, 5)$$

$$y - 5 = \frac{3}{5}(x - 0)$$

pt.-slope Form

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

$$\begin{array}{r} +5 \quad +5 \\ \hline y = \frac{3}{5}x + 5 \end{array}$$

Slope-Int. Form

$$\begin{array}{r} -\frac{3}{5}x \quad -\frac{3}{5}x \\ \hline \end{array}$$

$$-5\left(-\frac{3}{5}x + y = 5\right)$$

$$\boxed{3x - 5y = -25}$$

Standard Form

$$6) m = \frac{5}{4}, (0, 2)$$

$$y - 2 = \frac{5}{4}(x - 0)$$

$$y - 2 = \frac{5}{4}x$$

$$\begin{array}{r} +2 \quad +2 \\ \hline y = \frac{5}{4}x + 2 \end{array}$$

$$\begin{array}{r} -\frac{5}{4}x \quad -\frac{5}{4}x \\ \hline \end{array}$$

$$-4\left(-\frac{5}{4}x + y = 2\right)$$

$$\boxed{5x - 4y = -8}$$

$$\textcircled{7} \quad m = -4, (2, -5)$$

$$y + 5 = -4(x - 2)$$

$$y + 5 = -4x + 8$$

$$\begin{array}{r} -5 \qquad -5 \\ \hline \end{array}$$

$$y = -4x + 3$$

$$\begin{array}{r} +4x \qquad +4x \\ \hline \end{array}$$

$$\boxed{4x + y = 3}$$

$$\textcircled{8} \quad (-4, 3) \text{ and } (-1, -1)$$

$$m = \frac{-1 - 3}{-1 + 4} = \frac{-4}{3}$$

$$y - 3 = -\frac{4}{3}(x + 4)$$

$$3(y - 3) = -\frac{4}{3}x - \frac{16}{3}$$

$$3y - 9 = -4x - 16$$

$$\begin{array}{r} +9 \qquad +9 \\ \hline \end{array}$$

$$3y = -4x - 7$$

$$\begin{array}{r} +4x \qquad +4x \\ \hline \end{array}$$

$$\boxed{4x + 3y = -7}$$

9) $(-3, -2)$ and $(2, 3)$

$$m = \frac{3 - (-2)}{2 - (-3)} = \frac{5}{5} = 1$$

$$y + 2 = 1(x + 3)$$

$$y + 2 = x + 3$$

$$\begin{array}{r} y + 2 = x + 3 \\ -2 \quad -2 \\ \hline y = x + 1 \end{array}$$

$$-1(-x + y = 1)$$

$$\boxed{x - y = -1}$$

10) $(3, -2)$ and $(0, 3)$

$$m = \frac{3 - (-2)}{0 - 3} = \frac{5}{-3}$$

$$y + 2 = -\frac{5}{3}(x - 3)$$

$$y + 2 = -\frac{5}{3}x + 5$$

$$\begin{array}{r} y + 2 = -\frac{5}{3}x + 5 \\ -2 \quad -2 \\ \hline y = -\frac{5}{3}x + 3 \end{array}$$

$$\begin{array}{r} +\frac{5}{3}x \quad +\frac{5}{3}x \\ \hline \end{array}$$

$$3\left(\frac{5}{3}x + y = 3\right)$$

$$\boxed{5x + 3y = 9}$$