

Standard Form of a Linear Equation

Convert each equation from slope-intercept form to standard form.

$$1) y = -\frac{2}{5}x$$

$$+\frac{2}{5}x + \frac{2}{5}x$$

$$5\left(\frac{2}{5}x + y = 0\right)$$

$$\boxed{2x + 5y = 0}$$

$$3) y = 2x - 3$$

$$-2x -2x$$

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

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

$$5) y = -6$$

$$\boxed{y = -6}$$

$$7) y = -3x + 2$$

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

$$2) x = -5$$

$$\boxed{x = -5}$$

$$4) y = -2x + 1$$

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

$$6) y = -x - 3$$

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

$$8) y = \frac{4}{5}x - 5$$

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

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

Write each equation in STANDARD FORM. (Hint: Write in slope-intercept form, then convert to standard form.)

$$9) \text{ Slope} = \frac{3}{5}, \text{ y-intercept} = 5$$

$$\text{S.I. } y = \frac{3}{5}x + 5$$

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

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

$$10) \text{ Slope} = 1, \text{ y-intercept} = -3$$

$$\text{S.I. } y = 1x - 3$$

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

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

$$11) \text{ Slope} = -\frac{3}{5}, \text{ y-intercept} = -3$$

$$\text{S.I. } y = -\frac{3}{5}x - 3$$

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

$$\boxed{3x + 5y = -15}$$

$$12) \text{ Slope} = \frac{5}{4}, \text{ y-intercept} = 2$$

$$\text{S.I. } y = \frac{5}{4}x + 2$$

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

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

13) Slope = $-\frac{3}{5}$, y-intercept = 1

S.I. $y = -\frac{3}{5}x + 1$

$5\left(\frac{3}{5}x + y = 1\right)$

$3x + 5y = 5$

15) Slope = $\frac{7}{2}$, y-intercept = 3

S.I. $y = \frac{7}{2}x + 3$

$-2\left(\frac{7}{2}x + y = 3\right)$

$7x - 2y = -6$

Convert each equation to STANDARD FORM.

17) $y - 5 = -3(x + 2)$

$y - 5 = -3x - 6$

$3x + y - 5 = -6$

$3x + y = -1$

19) $0 = x - 4$

$-1(-x = -4)$

$x = 4$

21) $y - 4 = \frac{1}{3}(x + 3)$

$y - 4 = \frac{1}{3}x + 1$

$-\frac{1}{3}x + y - 4 = 1$

$-3\left(-\frac{1}{3}x + y = 5\right)$

$x - 3y = -15$

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

$y - 3 = -2x - 4$

$2x + y - 3 = -4$

$2x + y = -1$

14) Slope = -8 , y-intercept = 5

S.I. $y = -8x + 5$

$8x + y = 5$

16) Slope = -5 , y-intercept = 5

S.I. $y = -5x + 5$

$5x + y = 5$

18) $y + 1 = \frac{4}{5}(x - 5)$

$y + 1 = \frac{4}{5}x - 4$

$-\frac{4}{5}x + y + 1 = -4$

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

$4x - 5y = 25$

20) $y - 3 = -\frac{1}{2}(x + 4)$

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

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

$2\left(\frac{1}{2}x + y = 1\right)$

$x + 2y = 2$

22) $y + 5 = 3(x + 3)$

$y + 5 = 3x + 9$

$-3x + y + 5 = 9$

$-1(-3x + y = 4)$

$3x - y = -4$

24) $y - 1 = \frac{5}{3}(x - 3)$

$y - 1 = \frac{5}{3}x - 5$

$-\frac{5}{3}x + y - 1 = -5$

$-3\left(-\frac{5}{3}x + y = -4\right)$

$5x - 3y = 12$