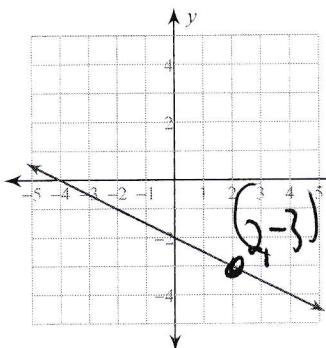


I can write linear equations in any of the three forms

Write all three forms of the equation of each line.

1)



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

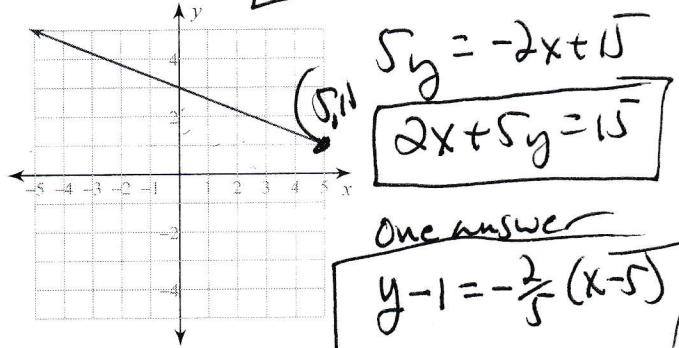
$$2y = -x - 4$$

$$x + 2y = -4$$

One Answer

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

2)



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

$$5y = -2x + 15$$

$$2x + 5y = 15$$

One answer

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

Write all three forms of the equation of each line given the slope and y-intercept.

3) Slope = 5, y-intercept = 0 $(0, 0)$

$$y = 5x$$

$$y - 0 = 5(x - 0)$$

$$5x - y = 0$$

one answer

4) Slope = $\frac{3}{5}$, y-intercept = 4 $(0, 4)$

$$y = \frac{3}{5}x + 4$$

$$5y = 3x + 20$$

$$3x - 5y = -12$$

Write the two missing forms of the equation of each line.

5) $x - 11y = 28$

$$-11y = -x + 28$$

$$y = \frac{1}{11}x - \frac{28}{11}$$

7) $y - 2 = -\frac{1}{2}(x - 4)$

If $x = -3$ $(-3, 3)$

$$y = 3$$

or

$$y - 3 = \frac{1}{11}(x + 3)$$

6) $7x - 5y = -5$

$$-5y = -7x - 5$$

$$y = \frac{7}{5}x + 1$$

If $y = -6$
 $x = 5$

$$(5, -6)$$

$$y + 6 = \frac{7}{5}(x - 5)$$

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

$$y = -\frac{1}{2}x + 4$$

$2y = -x + 8$

$$x + 2y = 8$$

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

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

$2y = x - 2$

$$x - 2y = 2$$

Write all three forms of the equation of the line through the given point with the given slope.

9) through: $(-1, -3)$, slope = 3

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

$$y + 3 = 3x + 3$$

$$y = 3x + 0$$

$$3x - y = 0$$

10) through: $(2, 4)$, slope = undefined

$$x = 2$$

vertical
no other possible

Write all three forms of the equation of the line through the given points.

11) through: $(-4, 0)$ and $(0, -3)$

12) through: $(-4, 4)$ and $(-2, -4)$

~~Slope~~

See next page

(11) $(-4, 0) (0, -3)$

$$\text{Slope} = \frac{-3 - 0}{0 - (-4)} = \frac{-3 + 4}{4} = \frac{1}{4}$$

Slope int

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

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

Std form

$$4y = x - 12$$

$$x - 4y = 12$$

P/T slope

one answer using $(-4, 0)$

$$y - 0 = \frac{1}{4}(x + 4)$$

or using $(0, -3)$

$$y + 3 = \frac{1}{4}(x - 0)$$

(12)

Slope $(-4, 4) (-2, -4)$

$$\frac{-4 - 4}{-2 - 4} = \frac{-8}{2} = -4$$

Slope int.

P/T slope $(-2, -4)$

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

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

$$y = -4x - 12$$

Std form

$$4x + y = -12$$