

Linear Equations Quiz Review

Find the slope of the line.

1. (1, -3) and (-2, 4)

$$m = \frac{4 - (-3)}{-2 - 1} = -\frac{7}{3}$$

$$m = -\frac{7}{3}$$

2. (2, -6) and (-4, -6)

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

$$m = 0$$

3. (5, -3) and (-5, 9)

$$m = \frac{9 - (-3)}{-5 - 5} = \frac{12}{-10} = -\frac{6}{5}$$

Undefined

Write the equation of a line in slope-intercept form.

4. slope: 4 y-intercept: 5

$$y = 4x + 5$$

5. (-4, 9) and (2, -3)

$$m = \frac{-3 - 9}{2 - (-4)} = \frac{-12}{6} = -2$$

$$m = -2$$

$$y - 9 = -2(x + 4)$$

$$y - 9 = -2x - 8$$

$$y = -2x + 1$$

6. horizontal line that passes through (-3, 5) HOY

$$y = 5$$

7. vertical line that passes through (-7, 1) VUX

$$x = -7$$

8. Write the equation of a line in slope-intercept form that is parallel to the line of $y = -3x - 3$ and passes through the point (2, -2).

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

$$y + 2 = -3x + 6$$

$$y = -3x + 4$$

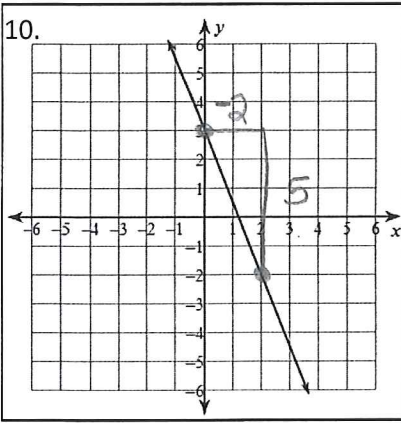
9. Write the equation of a line in slope-intercept form that is perpendicular to the line of $y = \frac{1}{5}x - 1$ and passes through the point (2, -2). $m = -5$

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

$$y + 2 = -5x + 10$$

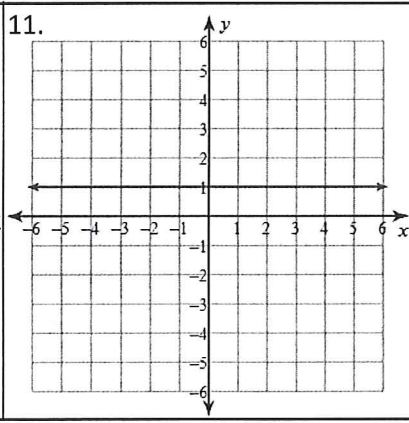
$$y = -5x + 8$$

Write the equation of the line for each of the following.



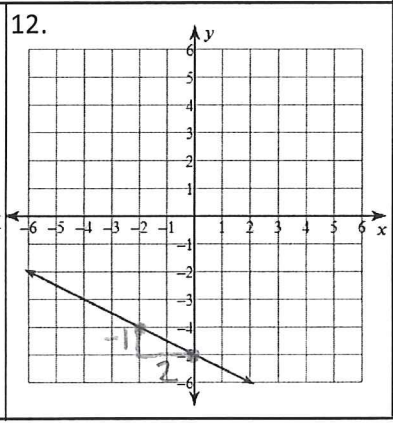
Equation: $y = \frac{5}{2}x + 3$

$m = \frac{5}{2}$ $b = 3$



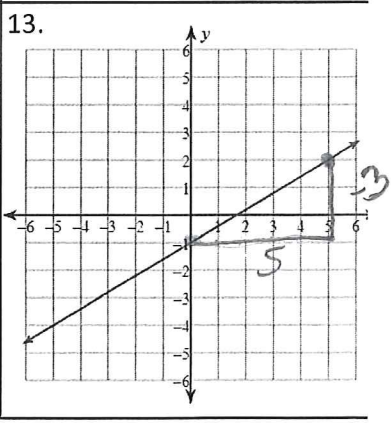
Equation: $y = 1$

HOY



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

$m = -\frac{1}{2}$ $b = -5$



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

$m = \frac{3}{5}$ $b = -1$

Given the points $A(2, -1)$ and $B(4, 3)$, perform the following:

14. Find the slope of AB .

$$m = \frac{3 - (-1)}{4 - 2} = \frac{4}{2} = 2 \quad \boxed{m=2}$$

15. Write the equation of the line in slope-intercept form and then graph it below. Graph the line below and label it as 2.

$$m=2 \quad A(2, -1)$$

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

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

$$\boxed{y = 2x - 5}$$

16. Using your equation from #15, write the equation of a line in slope-intercept form that is parallel to AB and passes through the point $(1, -4)$. Graph the line below and label this line as 3. $m=2 \quad (1, -4)$

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

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

$$\boxed{y = 2x - 6}$$

17. Using your equation from #15, write an equation of the line in slope-intercept form that is perpendicular and passes through the point $(8, -9)$. Graph it below and label this line as 4. $m = -\frac{1}{2}$

$$y + 9 = -\frac{1}{2}(x - 8)$$

$$y + 9 = -\frac{1}{2}x + 4$$

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

18. Graph and label the equations from problems #15-17.

