

Name _____

Date _____

Math 10: Unit 6 Extra Practice

Worksheet F5: Test Review

1. Slope-intercept form: $y = mx + b$

General form: $ax + by + c = 0$

2. Point slope form: $y - y_1 = m(x - x_1)$

Standard form: $ax + by = c$

3. Find the slope of the line containing the points (5, -3) and (-2, 5).

$$-\frac{7}{8}$$

$$\frac{\Delta y}{\Delta x} = \frac{5 - (-3)}{-2 - 5} = \frac{8}{-7}$$

4. Identify the slope and the y-intercept for the line with equation
- $y = -5x + 7$
- .

Slope = -5

y-intercept = 7

5. Write the equation in slope-intercept form for the line whose y-intercept is -4 and whose slope is -1.

$$y = -x - 4 \quad \text{or} \quad y = -1x - 4$$

6. What is the y-intercept of the line
- $15x = 5y - 10$
- ?

a. -5

b. -3

c. 2

d. 15

7. What is the equation of the line whose slope is -2 and whose y-intercept is 8?

a. $y = 8x + 2$

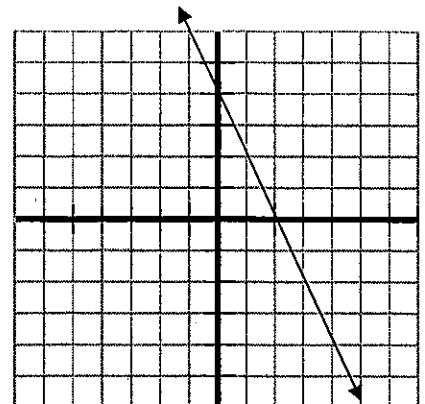
b. $y = 8x - 2$

c. $y = 2x - 8$

d. $y = -2x + 8$

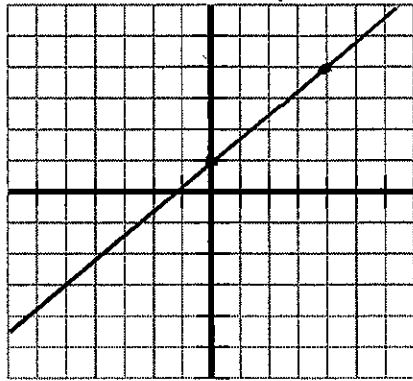
8. Write an equation in slope-intercept form for the line graphed below.

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



9. Use the slope and the y-intercept to graph the equation $-\frac{3}{4}x + y = 1$.

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



slope = $\frac{3}{4}$

y-intercept = $(0, 1)$

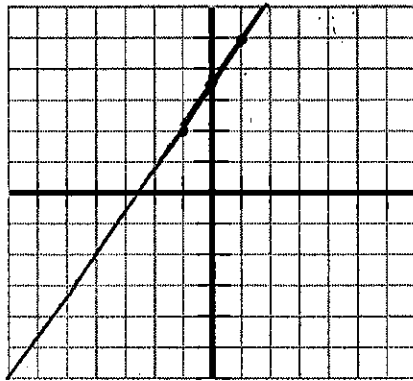
10. Use the slope and the y-intercept to graph the equation $-3x + 2y = 7$.

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

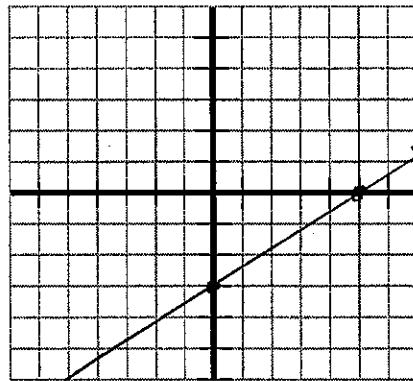
slope = $\frac{3}{2}$

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

y intercept = $(0, 3.5)$



11. Use the x-intercept and y-intercept to graph $3x - 5y = 15$.



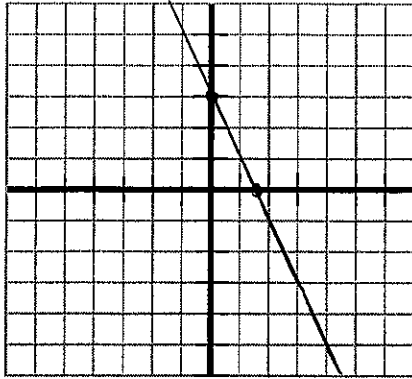
x intercept = $(5, 0)$

y intercept = $(0, -3)$

Given a slope of $\frac{2}{5}$ and a point $(-3, 2)$. What is the equation of the line in point-slope form?

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

12. Use the x-intercept and y-intercept to graph $y - 3 = -2x$.



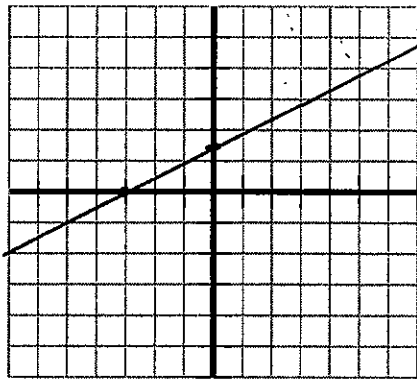
x-intercept = $(1.5, 0)$

y-intercept = $(0, 3)$

Convert $y = -2x - 3$ into general form.

$$-2x - y - 3 = 0$$

13. Use the x-intercept and y-intercept to graph $-2x + 4y = 6$.

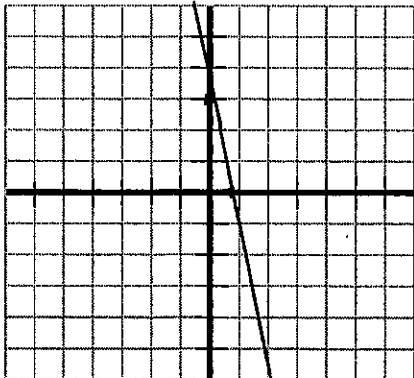


x-intercept = $(-3, 0)$

y-intercept = $(0, 1.5)$
 $\frac{3}{2}$

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

14. Graph $4x + y = 3$ using slope intercept form or the x-intercept and y-intercept.



x-intercept = $(0.75, 0)$

y-intercept = $(0, 3)$

Convert $y - 3 = \frac{1}{2}(x + 6)$ into slope intercept form.

$$y - 3 = \frac{1}{2}(x + 6)$$

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

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

$$+3 \quad +3$$

$$y = \frac{x}{2} + 6$$

21. Find the equation of a line that is parallel to $y = 2x - 3$ and has a y -intercept of 4.

$$y = 2x + 4$$

22. Find the equation of a line that is perpendicular to $y = -3x + 7$ and has a y -intercept of -2.

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

23. Find the equation of a line that is parallel to $y = 2x - 1$ and goes through the point (6, 2).

$$y = 2x - 10$$

$$y - 2 = 2(x - 6) \\ + 2 \quad + 2$$

$$y = 2x - 12 + 2$$

$$y = 2x - 10$$

24. Find the equation of a line that is perpendicular to $y = \frac{1}{3}x + 2$ and goes through the point (1, 7).

~~$$y = \frac{1-3}{3}x + \frac{20}{3}$$~~

$$y - 7 = -3(x - 1)$$

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

$$y = -3x + 10$$

Find the slopes of the lines containing the points given:

7. (4, 0) and (5, 7)

$$\text{slope} = \frac{7}{1}$$

$$\frac{7-0}{5-4}$$

8. (0, 8) and (-3, 10)

$$-\frac{2}{3}$$

$$\frac{10-8}{-3-0}$$

9. (3, -2) and (5, -6)

$$-\frac{4}{2} = -\frac{2}{1}$$

$$\frac{-6 - (-2)}{5 - 3}$$

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

$$-\frac{3}{2}$$

$$\frac{-3-0}{2-0}$$

11. $(\frac{3}{4}, \frac{1}{2})$ and (2, -3)

$$\frac{2(-\frac{3}{4}) - \frac{1}{2}}{4(\frac{2}{4}) - \frac{3}{4}} = \frac{-\frac{6}{4} - \frac{1}{2}}{\frac{8}{4} - \frac{3}{4}} = \frac{-\frac{7}{2}}{\frac{5}{4}} = \frac{-7/2}{5/4} = \frac{-7/2 \cdot 4}{5} = \frac{-14}{5}$$

What is the slope of $y = 3$? $\frac{0}{0}$ What is the slope of $x = -5$? undefined

