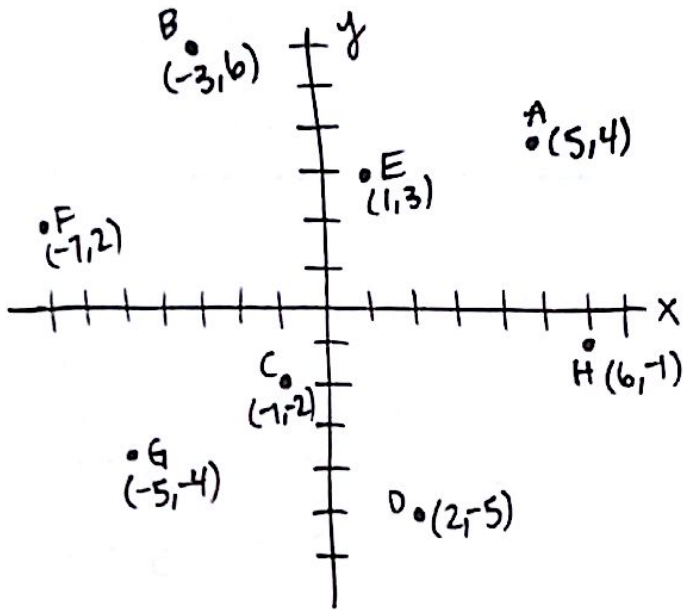


Algebra - PRACTICE PROBLEM ANSWERS

page
1



page
2

1. $(-6, 5), (4, -5)$ slope

$$m = \frac{5 - (-5)}{-6 - 4}$$

$$m = \frac{10}{-10}$$

$$m = -1$$

2. $(4, 3), (-8, 1)$ slope

$$m = \frac{3 - 1}{4 - (-8)}$$

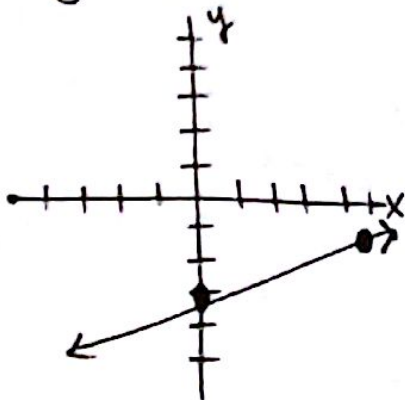
$$m = \frac{2}{12}$$

$$m = \frac{1}{6}$$

page
4

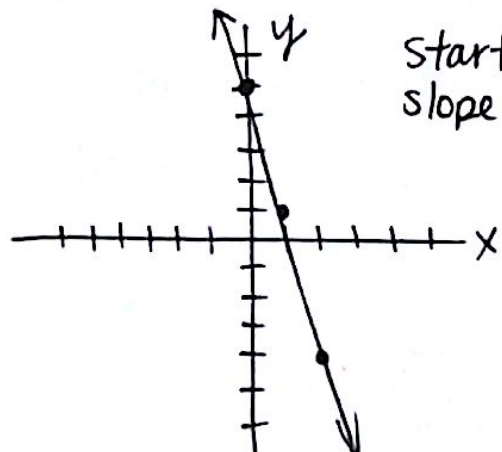
Graphing

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



Start at $(0, -3)$
slope: UP 2, RIGHT 5

4. $y = -4x + 5$



Start at $(0, 5)$
slope: DOWN 4
RIGHT 1

page
5

Equation of line from graph

5. $y = \frac{4}{3}x - 4$

6. $y = -2x + 5$

page
5

Solution?

7. $y = 5x - 2, (-1, -3)$

$$-3 = 5(-1) - 2$$

$$-3 = -5 - 2$$

$$-3 \neq -7$$

NO!

8. $y = -\frac{1}{2}x + 8, (6, 5)$

$$5 = -\frac{1}{2}(6) + 8$$

$$5 = -3 + 8$$

$$5 = 5 \checkmark$$

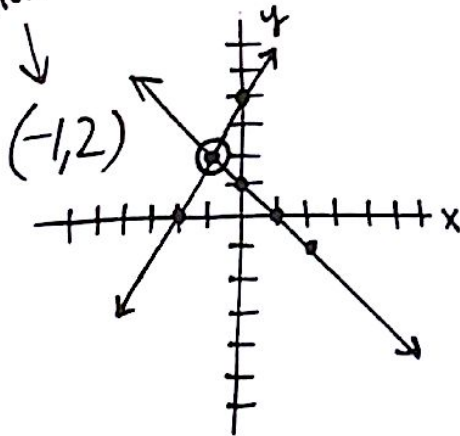
YES!

page
6

Solution to the system.

9. $\begin{cases} y = -x + 1 \\ y = 2x + 4 \end{cases}$

Solution



check:

$$y = -x + 1$$

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

$$2 = 1 + 1$$

$$2 = 2 \checkmark$$

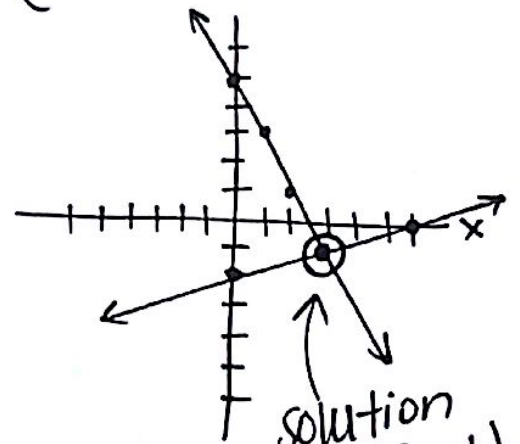
$$y = 2x + 4$$

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

$$2 = -2 + 4$$

$$2 = 2 \checkmark$$

10. $\begin{cases} y = -2x + 5 \\ y = \frac{1}{3}x - 2 \end{cases}$



check:

$$y = -2x + 5$$

$$-1 = -2(3) + 5$$

$$-1 = -6 + 5$$

$$-1 = -1 \checkmark$$

Solution
(3, -1)

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

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

$$-1 = 1 - 2$$

$$-1 = -1 \checkmark$$

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

11. slope of -3, passes through (4,-2)

$$y - y_1 = m(x - x_1)$$

$$y - -2 = -3(x - 4)$$

$$y + 2 = -3x + 12$$

$$\begin{array}{r} -2 \qquad \qquad -2 \\ y = -3x + 10 \end{array}$$

12. passes through (-3,9) and slope of 1/3

$$y - y_1 = m(x - x_1)$$

$$y - 9 = \frac{1}{3}(x - -3)$$

$$y - 9 = \frac{1}{3}(x + 3)$$

$$y - 9 = \frac{1}{3}x + 1$$

$$\begin{array}{r} +9 \qquad \qquad +9 \\ y = \frac{1}{3}x + 10 \end{array}$$

13. passes through points (-5,3) and (3,-1)

first find the slope

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

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

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

(-5,3)
slope of -1/2

then pick either point to use in formula

$$y - y_1 = m(x - x_1)$$

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

$$y - 3 = -\frac{1}{2}(x + 5)$$

$$y - 3 = -\frac{1}{2}x - \frac{5}{2}$$

$$\begin{array}{r} +3 \qquad \qquad +\frac{5}{2} \\ y = -\frac{1}{2}x + \frac{1}{2} \end{array}$$