

1. For each ordered pair, determine whether it is a solution to $y = -5$.

(x, y)	Is it a solution?	
	Yes	No
$(-5, 1)$	☐	☒
$(7, 6)$	☐	☒
$(8, -3)$	☐	☒
$(0, -5)$	☒	☐

2. Find an ordered pair (x, y) that is a solution to the equation.

$$3x - y = 3$$

When $x = 2$

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

$$6 - y = 3$$

$$y = 6 - 3$$

$$y = 3$$

Ordered pair $(2, 3)$

3. Graph the line.

$$y = -x + 8$$

x	0	2	3	4
y	8	6	5	4

4. Find the x -intercept and the y -intercept of the line below
 x -intercept $(-1, 0)$

y -intercept $(0, 4)$

5. Find the y -intercept and x -intercept of the line.

$$2x - 7y = 8$$

y-intercept: ____ (0, 8/7) or (0, 1.143) _____

x-intercept: ____ (4, 0) _____

6. Find the slope of the line passing through the points (7,-2) and (4, -8)

$$M = (-8 + 2)/(4 - 7)$$

$$= -6/2$$

$$= -3$$

7. Fill in the blanks below.

Find the slope of the line passing through the points (-8, 8) and (-3, 8) .
slope: 0
Find the slope of the line passing through the points (-7, 8) and (-7, -6) .
slope: ∞

8. Graph the line with slope -2 passing through the point (-4,-1)

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

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

$$y + 1 = -2x - 8$$

$$y = -2x - 8 - 1$$

$$y = -2x - 9$$

$$x - \text{intercept } (-4.5, 0)$$

$$y - \text{intercept } (0, -9)$$

9. Find the y-intercept and the slope of the line.

$$y = -\frac{1}{5}x - 9$$

$$\text{Slope} = -1/5$$

$$y - \text{intercept } (0, -9)$$

10. Write an equation in slope-intercept form for the line with y -intercept 3 and slope .

$$y = mx + c \quad \frac{1}{5}$$

$$m = \text{slope}$$

$$c = y\text{-intercept}$$

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

11. Consider the line $x - 6y = -1$.

What is the slope of a line parallel to this line?

$$-6y = -x - 1$$

$$y = \frac{1}{6}x + \frac{1}{6}$$

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

$$\text{Slope of a line parallel} = \frac{1}{6}$$

What is the slope of a line perpendicular to this line?

$$M_1 \times M_2 = -1$$

$$\frac{1}{6} \times M_2 = -1$$

$$M_2 = -6$$

12. The equations of three lines are given below.

$$\text{Line 1: } 4x - 10y = -2$$

$$\text{Line 2: } -5y = 2x + 5$$

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

For each pair of lines, determine whether they are parallel, perpendicular, or neither.

Line 1 and Line 2:	☐ Parallel	☐ Perpendicular	☒ Neither
Line 1 and Line 3:	☐ Parallel	☒ Perpendicular	☐ Neither
Line 2 and Line 3:	☐ Parallel	☐ Perpendicular	☒ Neither

13. A line passes through the point (4, -3) and has a slope of $\frac{3}{2}$.

Write an equation in slope-intercept form for this line.

$$\frac{3}{2} = \frac{y+3}{x-4}$$

$$2y + 6 = 3x - 12$$

$$2y = 3x - 12 - 6$$

$$2y = 3x - 18$$

$$y = \frac{3}{2}x - 9$$

14. Find an equation for the line that passes through the points (4,-6) and (-6, 6).

$$M = \frac{6+6}{-6-4}$$

$$\frac{-6}{5} = \frac{y+6}{x-4}$$

$$5y + 30 = -6x + 24$$

$$5y = -6x + 24 - 30$$

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

$$y = \frac{-6}{5}x - \frac{6}{5}$$

15. For each ordered pair, determine whether it is a solution to the system of equations.

$$\begin{cases} 3x - 2y = -8 \\ 6x + 7y = -5 \end{cases}$$

(x, y)	Is it a solution?	
	Yes	No
$(-4, -2)$	☐	☒
$(5, -5)$	☐	☒
$(-2, 1)$	☒	☐
$(7, 3)$	☐	☒

16. Use substitution to solve the system.

$$5x - 2y = 26$$

$$3y + 13 = x$$

$$5(3y + 13) - 2y = 26$$

$$15y + 65 - 2y = 26$$

$$13y = -39$$

$$y = -3$$

$$x = 3x - 3 + 13$$

$$x = -9 + 13$$

$$x = 4$$

$$x = \boxed{4}$$

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

17. Solve the following system of equations.

$$5x + 3y = -3$$

$$2x - 3y = 24 \quad +$$

$$7x = 21$$

$$x = 3$$

$$2x - 3y = 24$$

$$2(3) - 3y = 24$$

$$6 - 3y = 24$$

$$-3y = 24 - 6$$

$$-3y = 18$$

$$y = -6$$

$$x = 3$$

$$y = -6$$

- 18. One month Keith rented 6 movies and 5 video games for a total of \$56. The next month he rented 2 movies and 3 video games for a total of \$26. Find the rental cost for each movie and each video game.**

$$6m + 5v = 56$$

$$2m + 3v = 26 \quad \times 3$$

$$6m + 5v = 56$$

$$6m + 9v = 78 \quad -$$

$$-4v = -22$$

$$v = 5.50$$

$$2m + 3v = 26$$

$$2(5.50) + 3v = 26$$

$$11 + 3v = 26$$

$$3v = 26 - 11$$

$$3v = 18$$

$$v = 6$$

Each movie = \$5.50

Each video game = \$6.00

19. Graph the inequality in the coordinate plane.

$$y > 4$$

20. Graph the inequality.

$$-2x - 3y < -12$$