

GRAPHING REVIEW-INTRODUCTION TO ALGEBRA

Name:

Date:

Review Sheet – Graphing Linear Equations

1. What is a linear equation?
2. How do you graph a linear equation?
3. How do you know if an ordered pair is a solution to a linear equation?
4. How do you graph the ordered pair (4,-1) on the coordinate plane? Which one is the x coordinate and which one is the y?
5. Is (4,-1) a solution to the linear equation $y = -2x + 7$? Why?
6. If you know the x-coordinate, how do you determine the y-coordinate of any linear equation?
7. The x-coordinate of a linear equation is 2. The linear equation is $y = 4x - 4$. What is the corresponding y-coordinate? Plot this ordered pair on a graph using graph paper.
8. If another x-coordinate of the linear equation in #7 is 0, what will the corresponding y-coordinate be? Locate this point on the same graph as #7.
9. If a third x-coordinate of the linear equation in #7 is 3, what is the y-coordinate? Plot this point on the same graph as #7.
10. Connect the dots for the points on the graph of #7 - #9. What does this line represent?
11. Graph on graph paper: $y = 4x + 2$ Use a table of values for X and Y with at least 4 points on the graph, including positive and negatives values for x, and 0.
12. Graph on the same graph as #11: $y = -\frac{1}{4}x + 3$. Use a table of values for X and Y with at least 4 points on the graph, including positive and negatives values for x, and 0.

Review Sheet –Slope and Rate of Change

13. Define slope.
14. How can you tell, just by looking, if the slope of a line is positive or negative?
15. What does a linear equation look like if the slope is 0? What is its equation?
16. Why is the slope of a vertical line undefined? What is its equation?
17. How do you calculate the slope of a line given two points?
18.
 - (a.) Plot the points (6, 3) and (1, 1) on the same graph. Use graph paper.
 - (b.) Draw a line through these points.
 - (c.) Just by looking, determine if the slope is positive or negative.
 - (d.) Calculate the slope.
19.
 - (a.) On the same graph as #18, plot the points (0, 4) and (-5, 2).
 - (b.) Draw a line through these two points.
 - (c.) Calculate the slope.
20.
 - (a.) How do the slopes of #18 and #19 compare?
 - (b.) What does this mean?
21.
 - (a.) Plot the points (0,-3) and (-4, 9) on a graph. Draw a line through these points. Is the line rising or falling from left to right? What does that mean about the slope?
 - (b.) Calculate the slope of this line?

- (c.) Plot the point $(1, -6)$ on this graph. It is on the same line as the points in part (a). What is the slope between $(-4, 9)$ and $(1, -6)$?
- (d.) Did you get the same answer for (b) and (c)?
22. (a.) Plot the points $(3, 4)$ and $(-9, -2)$ on the same graph as #21. Draw a line through these points. Is the line rising or falling from left to right?
- (b.) What is the slope of this line?
- (c.) The two lines on the graph SHOULD look perpendicular. How do their slopes compare?
- (d.) Are they perpendicular?

Review Sheet –Quick Graphs of Linear Equations

23. What is the x-intercept of a line?
24. What is the y-intercept of a line?
25. For the linear equation $y = -3x - 3$, what is the x-intercept? What is the y-intercept?
26. Write an equation that has NO x-intercepts.
27. Write an equation that has NO y-intercepts.
28. Write an equation that has an infinite number of x-intercepts.
29. The general form of a linear equation is $y = mx + b$. What do m and b represent?
30. For the linear equation $y = -3x - 3$, what is the slope and y-intercept?
31. How do you change the linear equation $3y - x = 3$ so that it looks like $y = mx + b$? What will this equation look like after you do?

32. (a.) What is the slope of the equation in #31?
- (b.) What is the y-intercept of this equation?
33. Graph #3 on graph paper using $x=0$, $x=3$, and $x=-9$.
34. What is the Algebraic representation of the Standard Form of an Equation?
35. If an equation, not in Standard Form, contains fractions, how do you eliminate the fractions to get the equation in Standard Form?
36. Express $-3(x + 4) = 2y$ in Standard Form.
37. Express $\frac{1}{2}x - \frac{1}{4}y = -1$ in Standard Form.
38. What is the Algebraic representation of the Slope-Intercept Form of an Equation?
39. Identify the Slope and Y-Intercept in $y = -2x - 6$.
40. How do you graph a line using only the Slope-Intercept Form of an equation?