Chapter 2 Review   **Name**_____
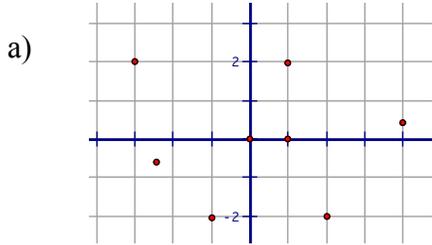
1. Is the relation a function? Explain.

a)

b) {(5, 0), (8,3), (1, 3), (-5, 2), (3, 8)}

c) Find the domain and range for part b.

2. If $f(x) = -2x + 8$ and $g(x) = 3x$, find the following:

a) $f(-3)$ b) $g(4) / f(2)$

3. Write an equation of a line through (8, 3) and perpendicular to $y = -2x + 3$. Write in each form.

point-slope form:

slope-intercept form:

standard form:

4. Write an equation of a line through (-3, -9) that is parallel to $y = 3x + 7$. Write in each form.

point-slope form:

slope-intercept form:

standard form:

Graph each of the following on graph paper.

5. $3x + y = 6$.

6. $y \leq -2|x - 3| + 1$

7. $y = \frac{1}{3}|x + 2| - 3$

8. $-1 + y > 3x$

9. $y \leq 2$

10. $2y \geq 3x + 12$

11. Alexandra has a college savings account she starts in 2000. After 3 years she has $2569 in the account. After 10 years she has $7630.
a) Write an equation to model the amount of money in the account as a function of time.

b) How much money will Alexandra have in 2018? (Hint: How many years have passes since the account started?)

12. Complete the chart.

Equation	Does it open up or down?	Is the graph wider or narrower than the parent graph? (this is a vertical stretch or shrink)	What is the horizontal (x) shift?	What is the vertical (y) shift?	Where is the vertex? (,)
$y = 3|x+2|+5$					
$y = \dfrac{1}{4}|x|+7$					

Cumulative Review
13. You have at most $20 to spend at the store. You want to buy socks. The athletic socks you like at $5 per pair, and the dress socks you need at $3 per pair. You buy some of each type of sock. Write an inequality to represent the situation. Then find how many athletic socks you can buy if you need 3 pairs of dress socks.

14. Solve and graph each inequality:

a) $2x + 7 > 22$ or $-2x > 10$

b) $-2|3+x| \geq -10$

c) $-3 \leq -2x - 8 \leq 16$