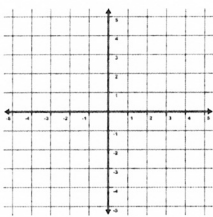
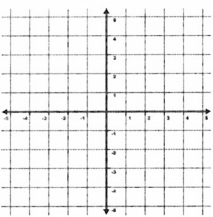
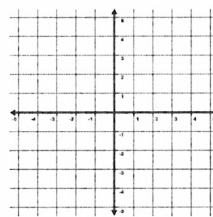
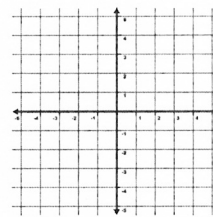
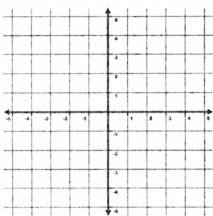
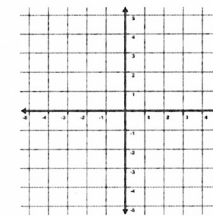
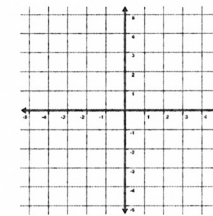
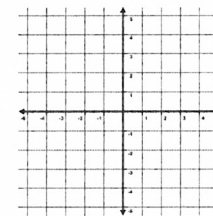


Unit 1: Function Family

1) NC Draw a rough sketch of each of the parent functions

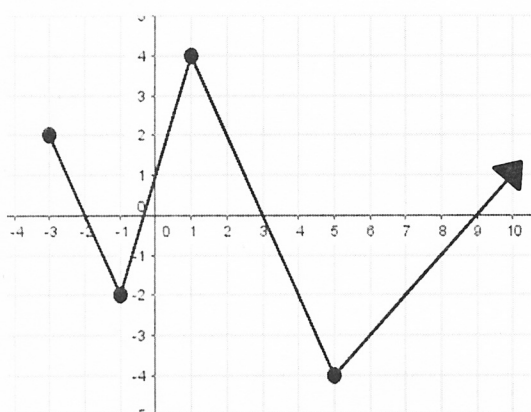
<p>a) Linear Equation:</p> 	<p>b) Absolute Value Equation:</p> 	<p>c) Quadratic Equation:</p> 	<p>d) Square Root Equation:</p> 
<p>e) Cubic Equation:</p> 	<p>f) Cube Root Equation:</p> 	<p>g) Exponential Growth Equation:</p> 	<p>h) Logarithmic Equation:</p> 

2) NC $g(x) = b(x-m)^2 + r$

What happens to the function when....

$ b > 1$	$m > 0$	$r > 0$
$0 < b < 1$	$m < 0$	$r < 0$
$b < 0$		

3) NC Find the requested information for the graph below. Make sure you use the correct parentheses and/or brackets.



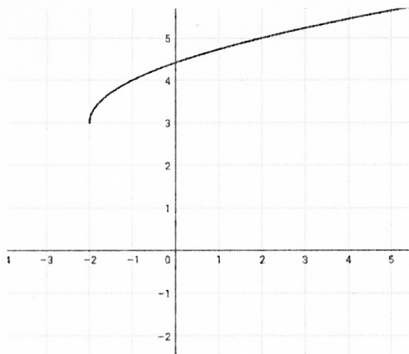
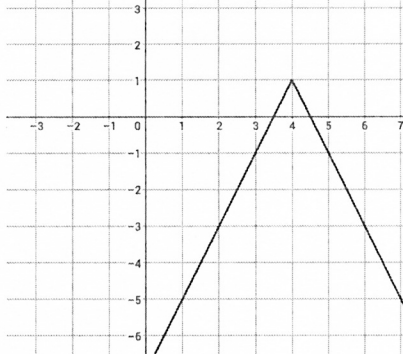
Increasing:

Decreasing:

Domain:

Range:

4) NC For each graph below, list the transformations. Then, write the equation of the graph.

<p>a) Transformations:</p> <ul style="list-style-type: none"> • • <p>New Equation:</p> 	<p>b) Transformations:</p> <ul style="list-style-type: none"> • • <p>New Equation:</p> 
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5) Find the domain & range for the following 2 functions: (Hint: It might help to draw a rough sketch!)

a) $f(x) = 3(x - 2)^2 - 5$

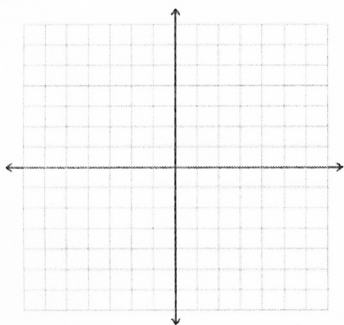
b) $g(x) = \sqrt{x - 5} + 2$

Unit 2: Systems

1) NC Solve the system by graphing.

$$5x + 3y = 9$$

$$x - 3y = 9$$



2) NC Solve the system using any method.

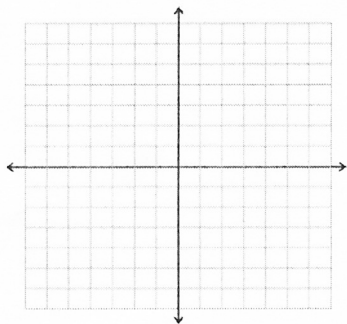
$$5x + y = 9$$

$$10x + 2y = 20$$

3) Graph the following system of inequalities.

$$y < -3x - 4$$

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



4) Are the points below a solution to

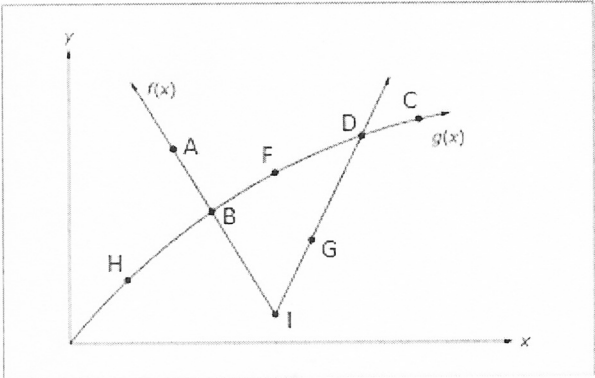
$$5x + 3y \geq 9?$$

a. (-2, 10) b. (2, -3) c. (4, 3) d. (1, 1)

5) Maria is hosting a party. She places an order at Pizza Hut for 5 pizzas and 4 breadsticks for a total of \$51. Halfway through the party, she realizes that she will need one more pizza and 2 more order of breadsticks. This time she was given a total of \$15. How much does a pizza cost? How much does a breadstick cost?

6) NC Janelle is selling cookies (x) and brownies (y) at a bake sale. A cookie costs \$1.50 and a brownie costs \$2.00. She needs to make at least \$50 to make a profit but she only has 20 cookies to sell. Write a system of linear inequalities to model this problem. (You don't have to solve)

7) The graphs of $y = f(x)$ and $y = g(x)$ are shown. **A.REI.D.11**



Solutions for...	List <u>all</u> the points (2 pts each)
$y = f(x)$	
$y = g(x)$	
$f(x) = g(x)$	

8) Find where the system intersects: $f(x) = x^2 + 5x - 10$; $g(x) = x + 2$

Unit 3: Rational/Radical

1) NC Simplify: $36^{\frac{1}{2}}$

2) NC Simplify: $8^{\frac{2}{3}}$

3) NC Convert to radical form: $X^{\frac{4}{5}}$

4) NC Convert to exponential form: $(\sqrt[4]{X})^3$

5) NC Simplify:

6) Simplify: $X^{\frac{2}{3}} \cdot X^{\frac{3}{4}}$

a) $\sqrt{72}$

b) $\sqrt{200}$

7) NC Simplify: $\frac{w^2xy^{-3}z}{w^5x^3y^3z^{-4}}$

8) NC Simplify: $\frac{x^{-3}y^2z}{x^2y^{-7}z}$

9) NC Solve: $\frac{4}{x} = \frac{-3}{x+8}$

10) Solve $\frac{x^2+11x+30}{x^2+3x-18}$

11) $\sqrt{3x-5} = 7$

12) $\sqrt{90-x} = x$

13) $\sqrt{x-5} = \sqrt{10-2x}$

Unit 4: Quadratics

1) Which of the following equations shows the minimum or maximum of $h(x)$? Is it a max or min?

$$h(x) = 2(x+3)(x+1)$$

$$h(x) = 2(x+2)^2 - 2$$

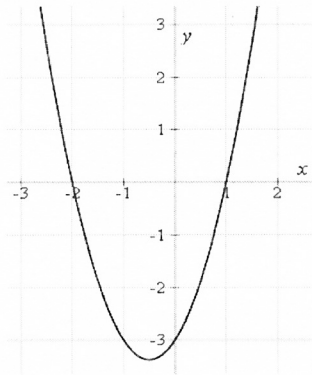
$$h(x) = 2x^2 + 8x + 6$$

2) Factor to find the x-intercepts

$$a) x^2 - 13x + 30 = 0$$

$$b) x^2 + 5x - 14 = 0$$

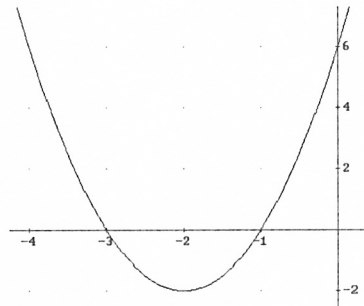
3) NC The graph below can be represented by which of the following equations:



- a) $y = (x-2)(x+1)$
- b) $y = (x-1)(x+2)$
- c) $y = (x+1)(x+2)$
- d) $y = (x-1)(x-2)$

4) NC Select all of the functions that can represent the following graph:

- a) $2x^2 + 4x + 3$
- b) $2(x+3)(x+1)$
- c) $2(x+2)^2 - 2$
- d) $2(x-3)(x-1)$
- e) $2x^2 + 8x + 6$
- f) $2(x-2)^2 - 2$



5) NC Solve the following equations using any method.

$$a) (p-6)^2 = 9$$

$$b) x^2 - 11x + 19 = -5$$

$$c) x^2 + 4x + 6 = 0$$

6) How many times does each of the following functions intersect the x-axis?

$$a) y = 3x^2 + \frac{2}{3}x - \frac{1}{3}$$

$$b) f(x) = \frac{4}{3}x^2 - 4x + 3$$

$$c) f(x) = 2x^2 - \frac{1}{2}x + \frac{3}{2}$$