Monday, October 21, 2013
8:25 AM

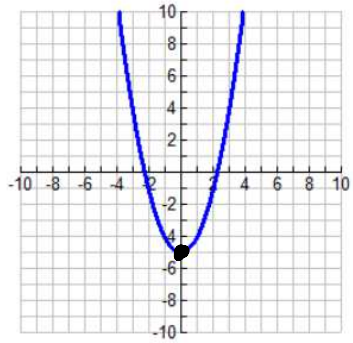
Algebra 2 H

Name:

Shifting

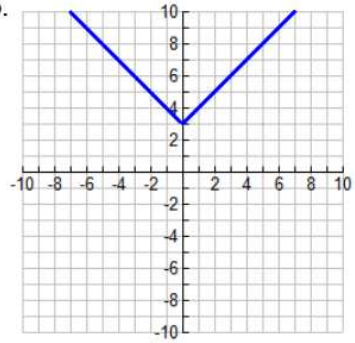
I. Write an equation for each of the graphs below.

a.



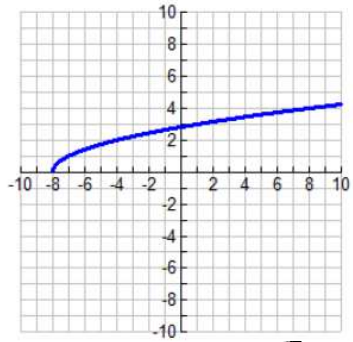
$y = x^2 - 5$

b.



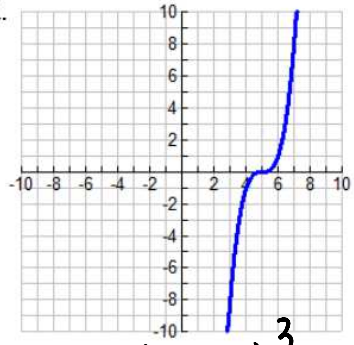
$y = |x| + 3$

c.



$y = \sqrt{x+8}$

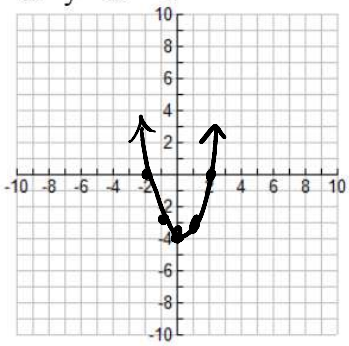
d.



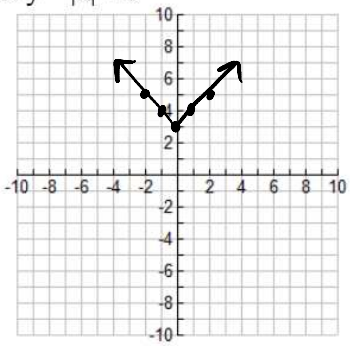
$y = (x-5)^3$

II. Graph the equations below.

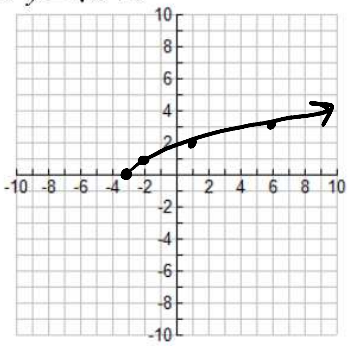
a. $y = x^2 - 4$



b. $y = |x| + 3$



c. $y = \sqrt{x+3}$



III. Identify the parent function, ***and*** then describe how it is transformed (be specific about the direction and number of units).

a. $y = x^2 - 5$

parent: x^2

down 5

b. $y = |x| + 9$

parent: $|x|$

up 9

c. $y = \sqrt{x-8}$

parent: $\sqrt{x}$

right 8

d. $y = (x + 4)^3 + 7$

parent: x^3

left 4

up 7

e. $y = 2^{x-5}$

parent: 2^x

right 5

f. $y = |x - 1| - 14$

parent: $|x|$

right 1

down 14

g. $y = \sqrt{x+1.5}$

parent: $\sqrt{x}$

left 1.5

h. $y = 2^x + 10$

parent: 2^x

up 10

i. $y = 3 + (x-4)^2 + 11$

parent: x^2

right 4

up 14

IV. Write an equation based on the transformation described.

a. $y = \sqrt{x}$ is shifted 5 to the left

$y = \sqrt{x+5}$

b. $y = x^2$ is shifted down 4 units

$y = x^2 - 4$

c. $y = x^3$ is shifted up 5 units

$y = x^3 + 5$

d. $y = |x|$ is shifted down 7 units and to the right 5

$y = |x-5| - 7$

e. $y = 2^x$ is shifted left 8 units

$y = 2^{x+8}$

f. $y = 2^x$ is shifted up 3 units

$y = 2^x + 3$