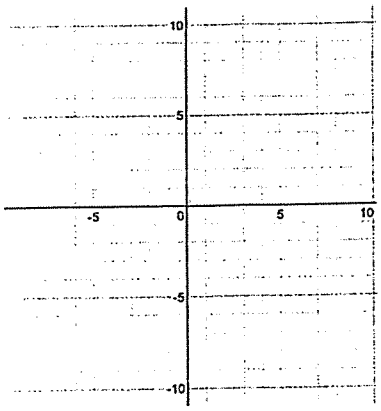
Name: _____ Hour: _____

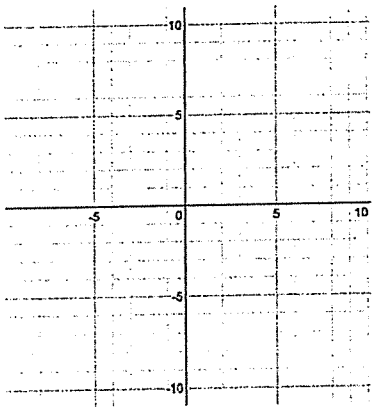
Family Functions Part 2 - Study Guide

Write the equation of the ~~transformed~~ parent functions ~~(with a, h, k – values)~~ and sketch its graph.

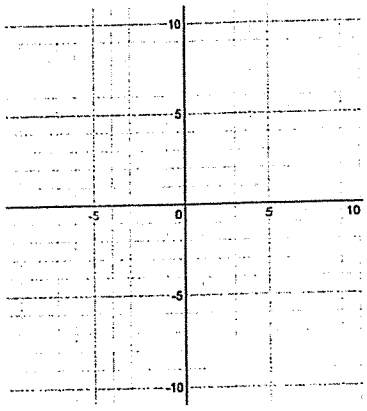
Linear
Equation:



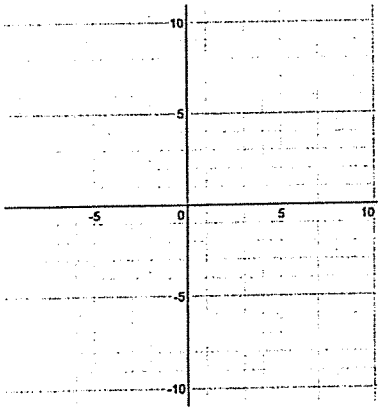
Polynomial Even
Equation:



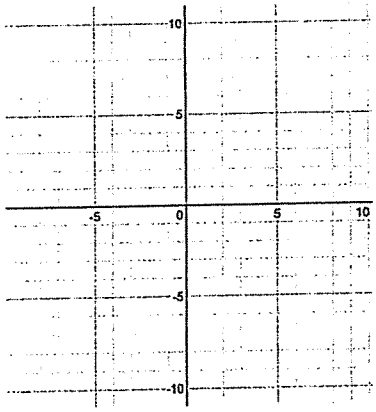
Polynomial Odd
Equation:



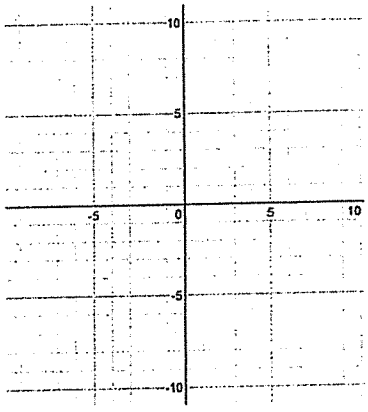
Absolute Value
Equation:



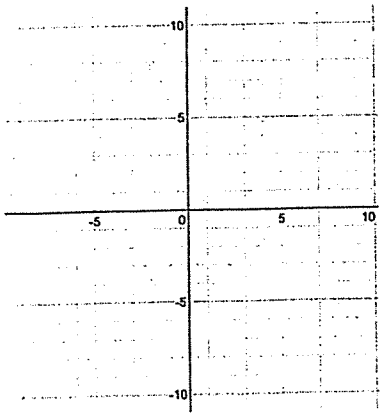
Log
Equation:



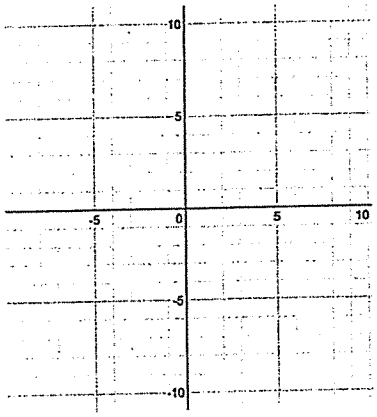
Exponential Decay
Equation:



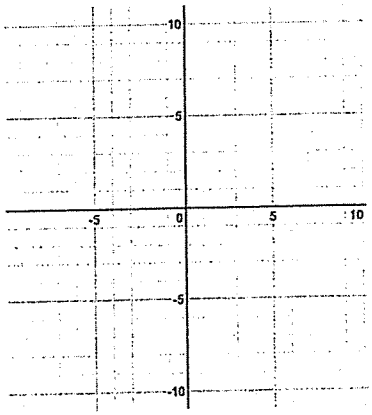
Radical Even
Equation:



Exponential Growth
Equation:



Radical Odd
Equation:



For #1 – 8 give the parent function name and equation, all a, h, and k values with their transformations.

1. $h(x) = 3\log(x + 1) + 6$

~~Parent~~ Function Family Name: _____ Parent Function Equation: _____

a – value: _____ Transformation(s): _____

h – value: _____ Transformation: _____

k – value: _____ Transformation: _____

2. $g(x) = 0.4\sqrt[3]{x - 2}$

~~Parent~~ Function Family Name: _____ Parent Function Equation: _____

a – value: _____ Transformation(s): _____

h – value: _____ Transformation: _____

k – value: _____ Transformation: _____

3. $f(x) = -2x + 5$

~~Parent~~ Function Family Name: _____ Parent Function Equation: _____

a – value: _____ Transformation(s): _____

h – value: _____ Transformation: _____

k – value: _____ Transformation: _____

4. $f(x) = -\frac{2}{3}(x + 7)^2 - 4$

~~Parent~~ Function Family Name: _____ Parent Function Equation: _____

a – value: _____ Transformation(s): _____

h – value: _____ Transformation: _____

k – value: _____ Transformation: _____

5. $g(x) = \frac{1}{2}^{(x-3)} - 1$

~~Parent~~ Family Function Name: _____

Parent Function Equation: _____

a – value: _____ Transformation(s): _____

h – value: _____ Transformation: _____

k – value: _____ Transformation: _____

6. $g(x) = 2^{(x-5)} - 6$

~~Parent~~ Family Function Name: _____

Parent Function Equation: _____

a – value: _____ Transformation(s): _____

h – value: _____ Transformation: _____

k – value: _____ Transformation: _____

7. $g(x) = 0.4(x-2)^3$

~~Parent~~ Function Name: _____ Parent Function Equation: _____

Family

a – value: _____ Transformation(s): _____

h – value: _____ Transformation: _____

k – value: _____ Transformation: _____

8. $f(x) = -\frac{1}{5}|x+3| - 2$

Family

~~Parent~~ Function Name: _____ Parent Function Equation: _____

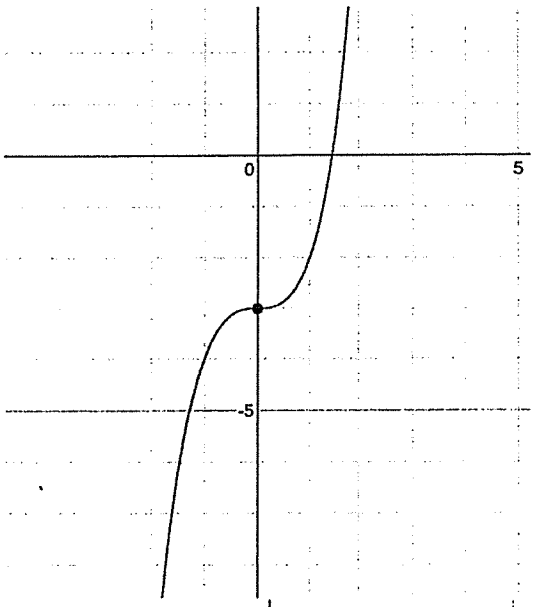
a – value: _____ Transformation(s): _____

h – value: _____ Transformation: _____

k – value: _____ Transformation: _____

Find the transformed equation by using all the information from the graph and find the a-value. SHOW ALL WORK ******** If you are given only one point, that is the major point and the a value is 1 . If you have two points then you must solve for a – value.**

9. Family Name: Parent Fcn:



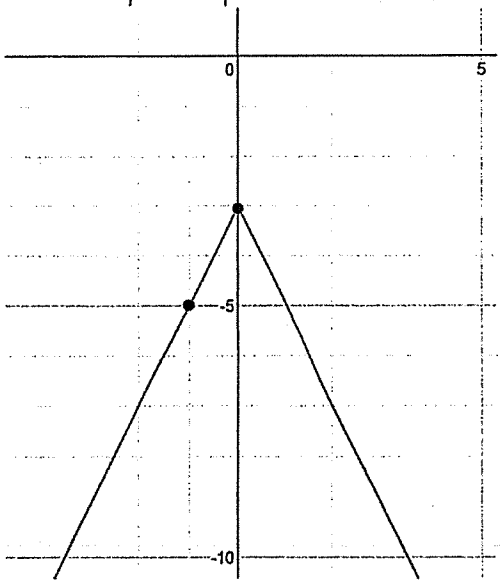
a – value: ____

h – value: ____

k – value: ____

Transformation Equation: $f(x)$ =

10. Family Name: Parent Fcn:



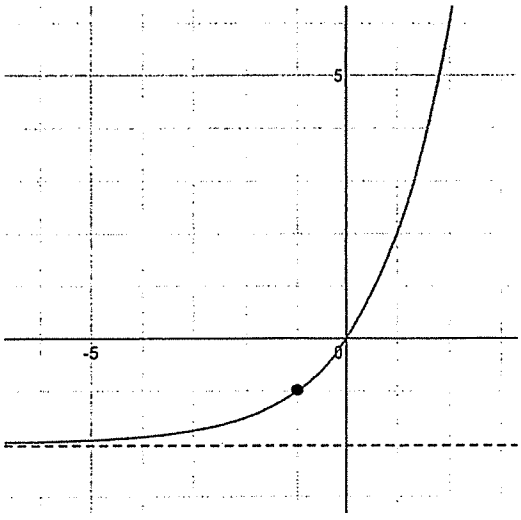
a – value: ____

h – value: ____

k – value: ____

Transformation Equation: $f(x)$ =

11. Family Name: Parent fcn:



a – value: ____

h – value: ____

k – value: ____

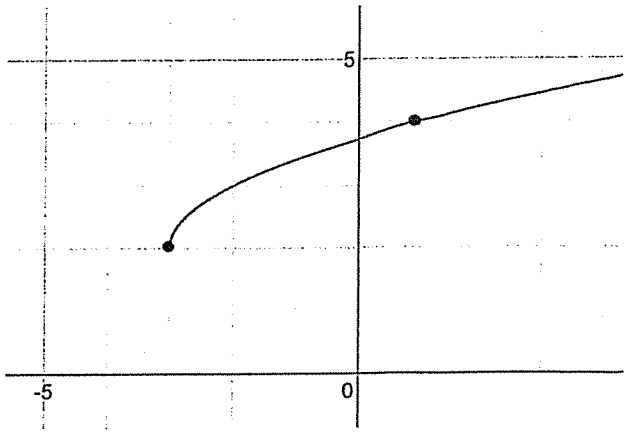
Transformation Equation: $f(x)$ =

12. Family Name: Parent Fcn

a – value: ____

h – value: ____

k – value: ____

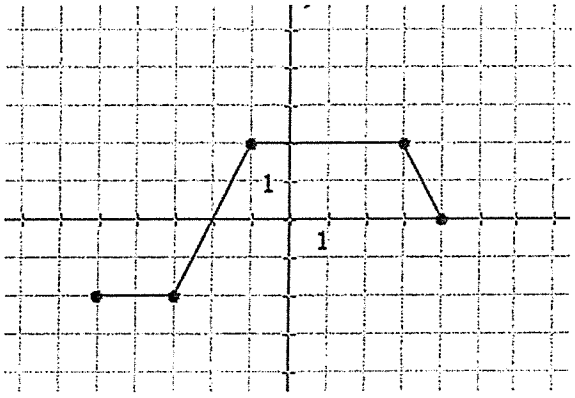


Transformation Equation: $f(x)$ =

Use the following arbitrary graph of $y = f(x)$ to describe the transformations and sketch a graph of the transformed function.

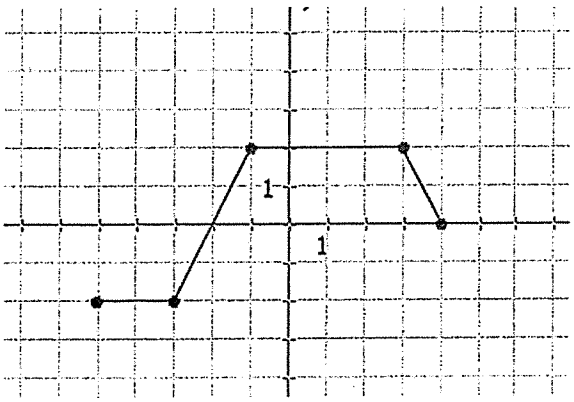
13. Transform the arbitrary function in "a" for questions b and c.

a. Create a table to represent this arbitrary function.



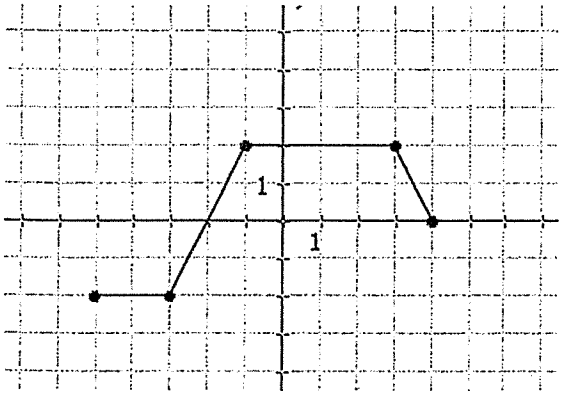
x	Y

b. $m(x) = 3f(x)$



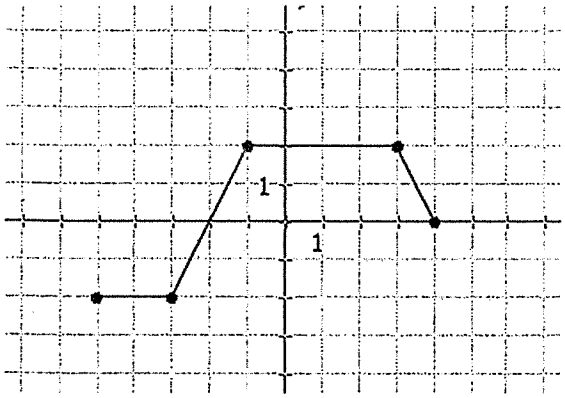
x	Y

c. $h(x) = f(x + 3) - 1$



x	Y

d. $g(x) = -f(x + 2)$



x	Y