Name: _____ period: ____ Number: _____

Original Function Art

GOAL: To produce a design using a variety of the graphs we have learned using all the transformations with domain and range.

ROLE: You are a designer who creates images.

AUDIENCE: Your client is Function Design, Inc.

SITUATION: The boss of Function Design, Inc. just called you. They are in the process of upgrading their logo. The boss is excited to take on this new frontier and needs an image of a logo to display. You, as the graphic designer, must use functions to create the image.
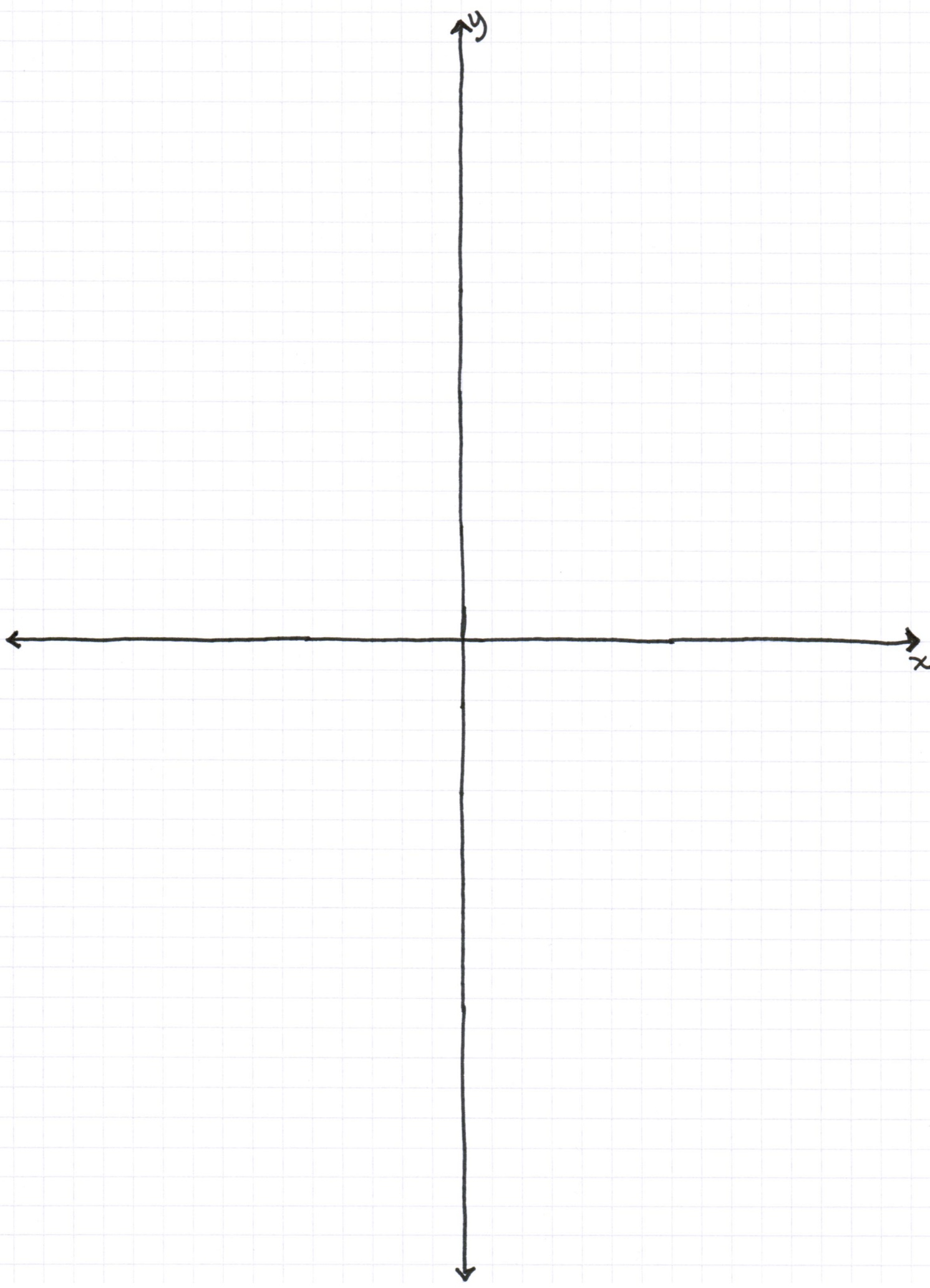
PERFORMANCE:
- You will draw your own picture using functions.
- You must identify **8 different functions** in your picture and state an accurate equation for each of them.
  - You must have one of every function listed.
    - Linear (with slope not equal to zero or undefined)
    - Linear (either $m = 0$ OR with slope undefined)
    - Absolute value
    - Quadratic
    - Square Root (radical)
    - Cubic
    - inverse or inverse square (rational)
    - exponential (either growth OR decay)

- You must restrict the domains of the functions to fit your picture meaning you must tell me where you want each function to start and end on the graph.
  - You must state the **domain and range** of each function to match your picture because otherwise your image, the new company logo, will go on forever.
  - You must also give the correct left, right, and anchor points (this is the new point in which (0,0) of the parent shifts to)
- Your graph must be accurate; with the **x-axis** and **y-axis** drawn and intervals labeled, so you can present it to the boss.
- This project may be done individually. You may collaborate with others and help each other out, but I should get a unique drawing and function list from each of you. This doesn't mean you can't have 1 function that is the same as someone else's, but I should NOT see multiple matching functions.
- Your drawing does not have to make a recognizable image, but each function should be there for a purpose. In other words, don't just throw in a function because you need another one but it should all be a careful, thoughtful layout. Please use a different color for each function and match that to your table.
- Your final product will include:
  1. A neat clearly written copy of the standards TABLE filled out with all the functions information to match your design
  2. Your DESIGN with all functions drawn on the graph paper and each in a different color.

STANDaRDS:

In order to be graded, you must complete the table below. Write each function, tell me the left, right, and anchor points and the domain and range of each function you used (must match on the graph). Finally list the function location so I can find it easily. **The number of the function should match your function label on your graph.** If I can't find your function, I can't give it a grade.

#	Function	Left Endpt	Anchor Pt	Right Endpt	Domain	Range	Function Location on Picture
1							
2							
3							
4							
5							
6							
7							
8							

	8	6	4	2	0
Functions	8 functions are listed with domain, range, and location	6-7 functions are listed with all info	5-7 functions are listed with all info, or has missing info.	1-4 functions are listed	No functions are listed
Function Families	There are representatives of each family	1-2 families are missing	3-4 families are missing	5-6 families are missing	6-8 families are missing
Function Accuracy	All 8 functions listed match to the functions on the drawing well	6-7 functions listed match to the functions on the drawing well	4-5 functions listed match to the functions on the drawing well	1-3 functions listed match to the functions on the drawing well	No functions listed match to the functions on the drawing well
Domain	All 8 domains listed match with the respected function domains in the drawing	6-7 domains listed match with the respected function domains in the drawing	4-5 domains listed match with the respected function domains in the drawing	1-3 domains listed match with the respected function domains in the drawing	No domains listed match with the respected function domains in the drawing
Range	All 8 ranges listed match with the respected function ranges in the drawing	6-7 ranges listed match with the respected function ranges in the drawing	4-5 ranges listed match with the respected function ranges in the drawing	1-3 ranges listed match with the respected function ranges in the drawing	No ranges listed match with the respected function ranges in the drawing
Creativity	The placement of all 8 of the functions form a recognizable image	The placement of 6-7 of the functions form a recognizable image, some of the functions seem to just be thrown in there	The placement of 4-5 of the functions form a recognizable image, some of the functions seem to just be thrown in there	The placement of 1-3 of the functions form a recognizable image, some of the functions seem to just be thrown in there	The drawing recreates no recognizable form or image
Neatness	No extra marks, tears, creases, frills, etc.	Extra marks, tears, creases, frills, etc. are present but don't affect quality of the product	Extra marks, tears, creases, frills, etc. somewhat affect quality of the product	Extra marks, tears, creases, frills, etc. greatly affect quality of the product somewhat	Can't see product because of extra marks, tears, creases, frills, etc.
Focus	Student never had to be asked to get back on task	Student had to be asked 1-2 times to get back on task	Student had to be asked 3-4 times to get back on task	Student had to be asked 5-6 times to get back on task	Student had to be asked 7-8 times to get back on task

Score Original Fcn Art (out of 76): _____

Comments: