

Transformations with Fred – Day 3 HW

Name Keyf

1. List the transformations needed to graph the following. Remember that translations are done last.

- a.  $y = 2F(x) + 2$  ① Vertical stretch by 2  
② Up 2
- b.  $y = \frac{1}{3}F(x - 6)$  ① Vertical compression by  $\frac{1}{3}$   
② Right 6
- c.  $y = -F(x) - 12$  ① Reflect across x-axis  
② Down 12
- d.  $y = 3F(-x)$  ① Vertical stretch by 3  
② Reflect across y-axis
- e.  $y = -5F(x)$  ① Vertical stretch by 5  
② Reflect across x-axis

Answers will vary

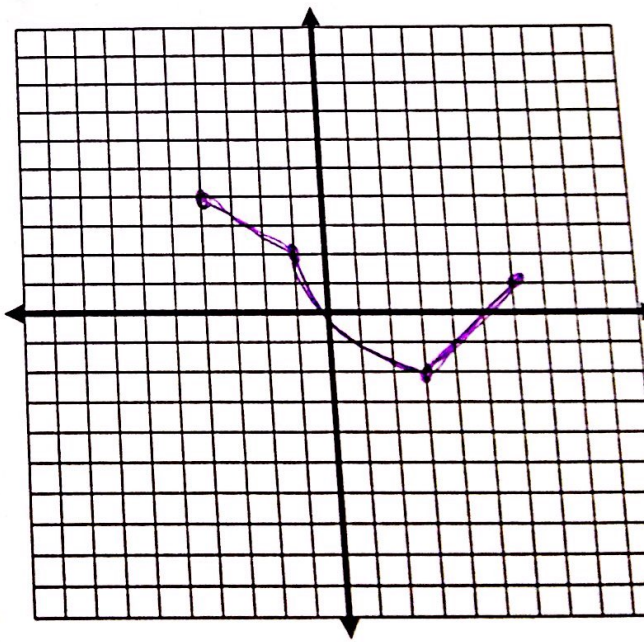
2. Looking back at the examples of parent functions we have worked with, create your own original parent function on the graph. Make sure that you have graphed a function.

- a. How can you tell your graph is a function?  
Passes vertical line test
- b. Explain the name you picked.

$M(x)$

c. Write an equation for your function that will have the following effects.

- Stretch vertically by 2 and translate left 4.  
 $y = 2m(x+4)$
- Reflect in the x-axis and compress vertically by  $\frac{1}{2}$   
 $y = -\frac{1}{2}m(x)$
- Translate up 6 and right 4  
 $y = m(x-4) + 6$



d. Graph each of the children from part c above using a separate graph for each. You will need to use your own graph paper.