

# 1.6 Notes

Wednesday, September 7, 2016 10:32 AM

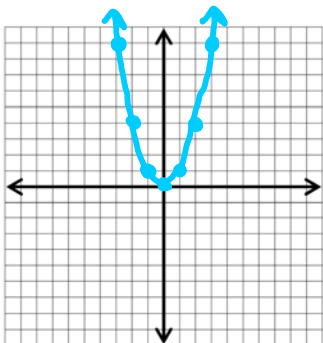


## Precalc Section 1.6

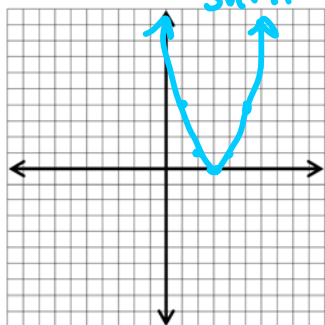
Name \_\_\_\_\_

Graph the following transformations!

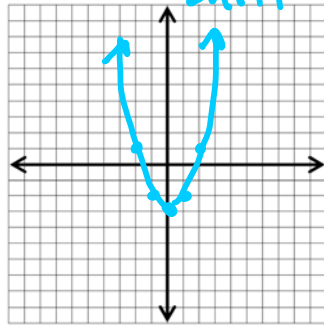
1)  $y = x^2$  (original graph)



2)  $y = (x - 3)^2$

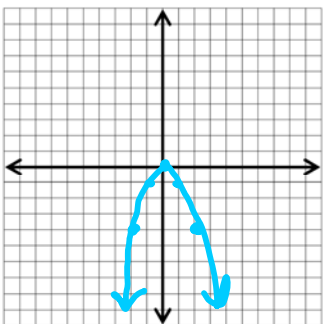


3)  $y = x^2 - 3$



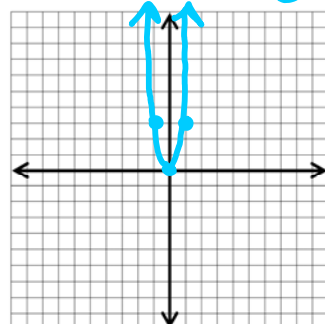
4)  $y = -x^2$

vert. reflection



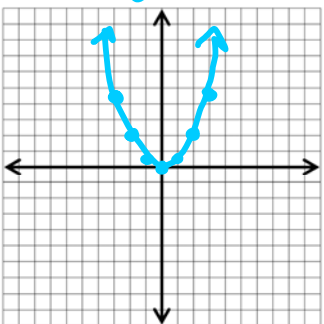
5)  $y = 3x^2$

vert. stretch BAFO 3



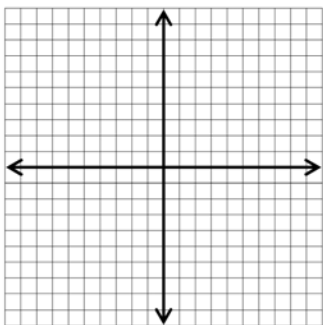
6)  $y = \frac{1}{2}x^2$

vertical shrink BAFO  $\frac{1}{2}$



### Stretches/Shrinks

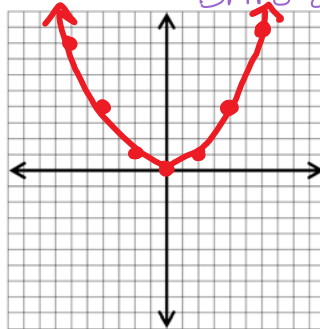
To function (y):



To input (x):

$$f(x) = \left(\frac{1}{2}x\right)^2$$

Horizontal stretch BAFO 2



Multiple Transformations – Order matters!!!

PEMDAS

**Multiple Transformations – Order matters!!!**

**SADMEP**

**PEMDAS**

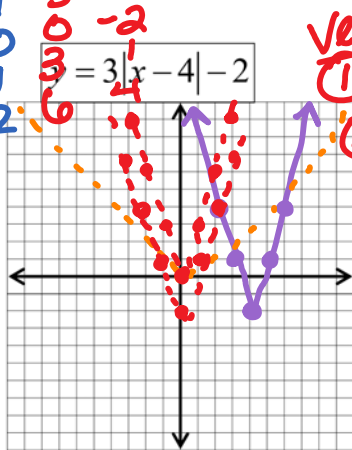
**Horizontal**

**Vertical**

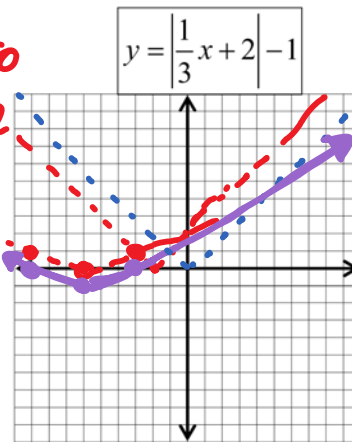
- ① shift Left/Right + -  
 ② stretch/shrink/reflect \*

- ① stretch/shrink/reflect \*  
 ② shift up/down + -

x	y	*3	-2
2	-2	6	4
3	-1	3	-1
4	0	0	-2
5	1	3	4
6	2	6	4



- Vert**  
 ① stretch BAFO  
 ② Shift down 2  
**Hor**  
 ① shift right 4



- Vert**  
 ① Shift Down 1  
**Hor**  
 ① Shift Left 2  
 ② Stretch BAFO 3

