

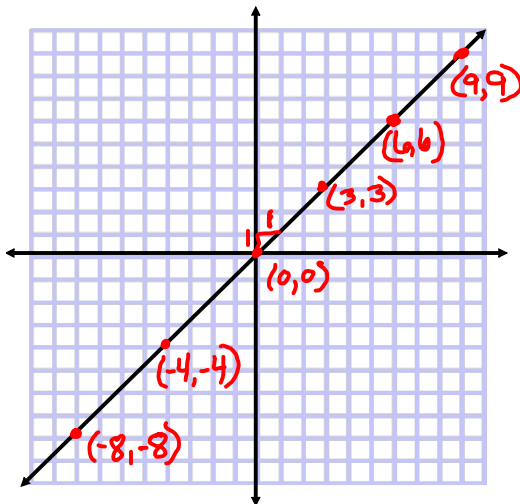
5.2

Algebra 2
Graph Parent Functions

Points of Interest

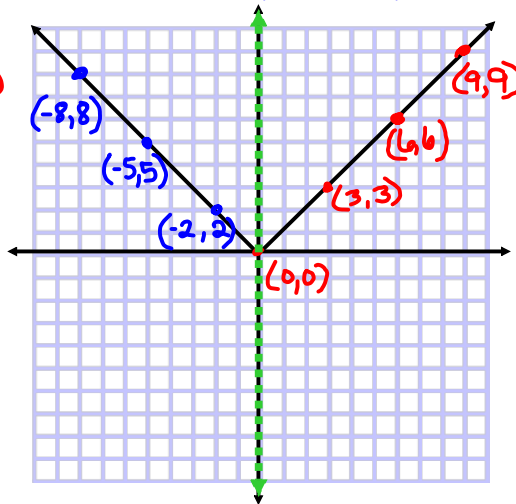
Linear: $y=x$

- slope = 1
- y-intercept = (0,0)



Absolute Value: $y=|x|$

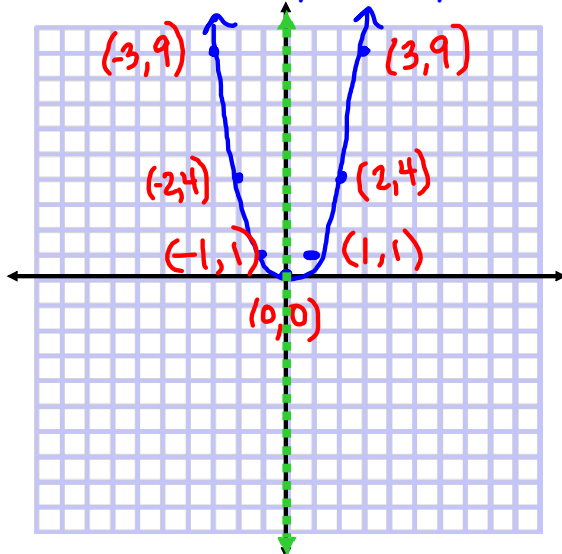
- vertex = (0,0)
- $y = x$ & $y = -x$
- Line of Symmetry $x=0$



Points of Interest Contd...

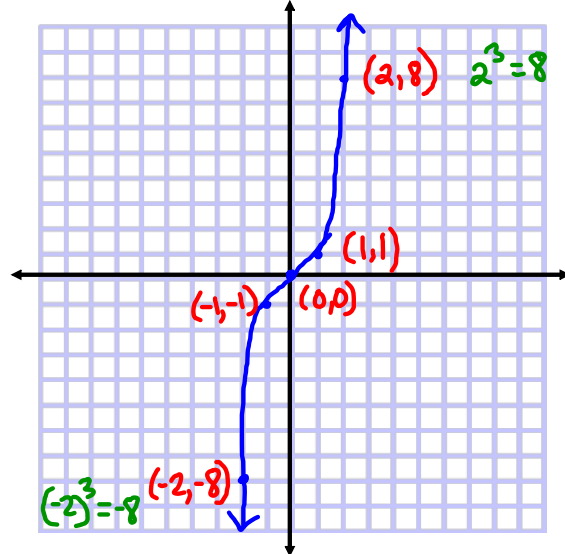
Quadratic: $y=x^2$

- vertex = (0, 0)
- (2,4), (-2,4)
- U shape
- Line of Symmetry $x=0$



Cubic: $y=x^3$

- y-intercept = (0,0)
- S shape
- (1,1), (-1,-1), (2,8), (-2,-8)

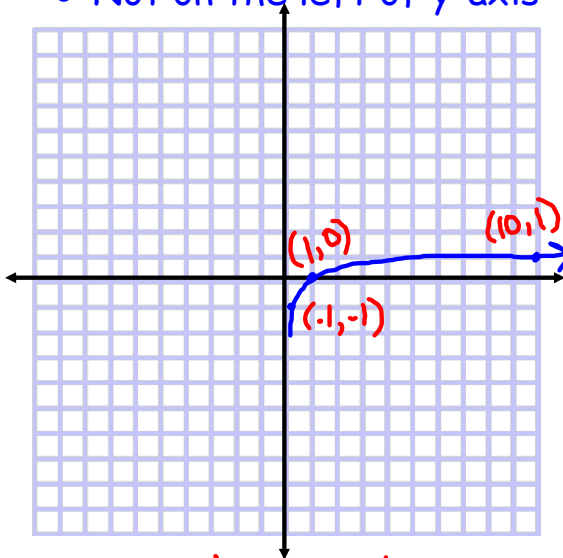


Points of Interest Contd...

Logarithmic: $y = \log(x)$

- x-intercept = (1, 0)
- (10, 1), (.1, -1)
- Not on the left of y-axis

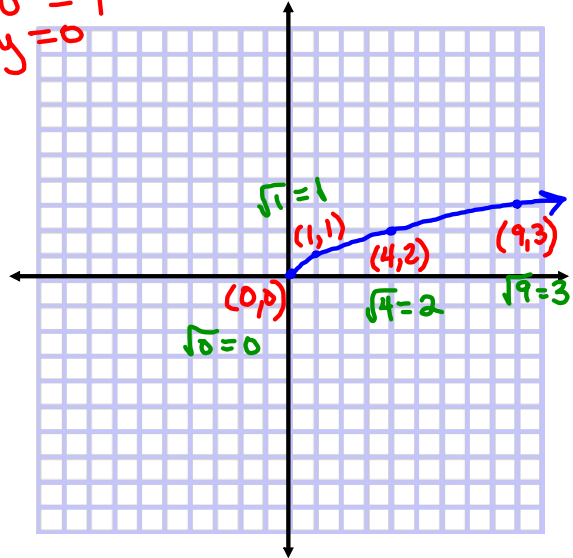
$\log_{10}(10^y) = y$
 $10^y = 1$
 $y = 0$



$10^{-1} = \frac{1}{10}$

Square Root: $y = \sqrt{x}$

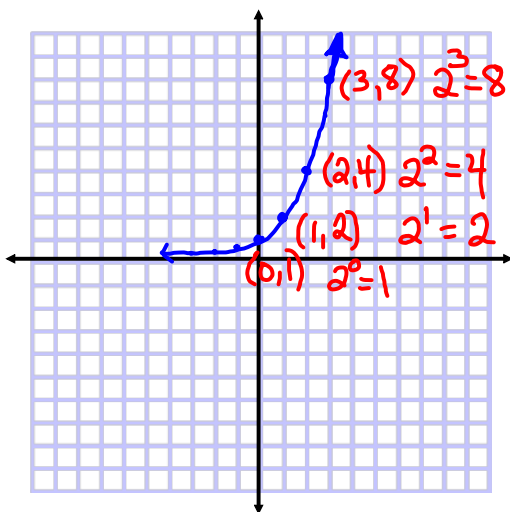
- x & y-intercept = (0, 0)
- Only in Q1



Points of Interest Contd...

Exponential: $y = 2^x$

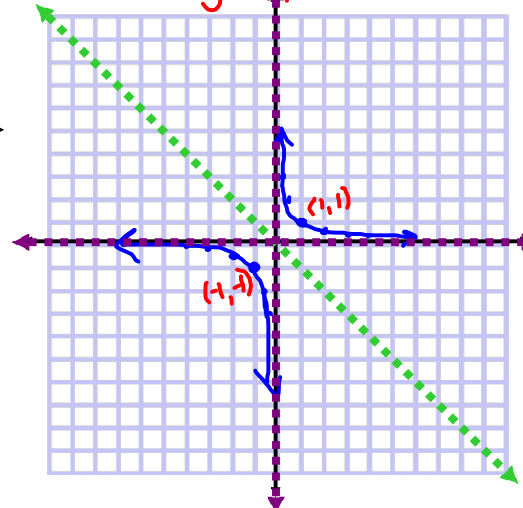
- y-intercept = (0, 1)
- another good point = (2, 4)



Rational: $y = 1/x$

- center = (0, 0)
- right vertex = (1, 1)
- left vertex = (-1, -1)
- pieces are in Q1 & Q3
- Line of symmetry $y = -x$
- Axis of Symmetry $y = 0, x = 0$

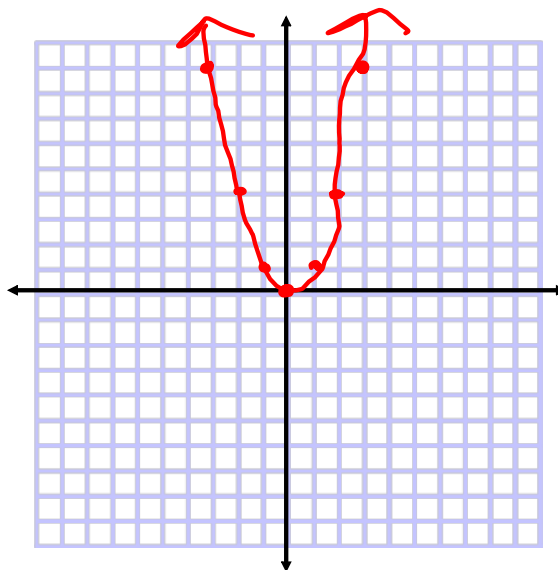
Asymptotes



Name the equation of the given parent function. Then graph that function.

1) quadratic

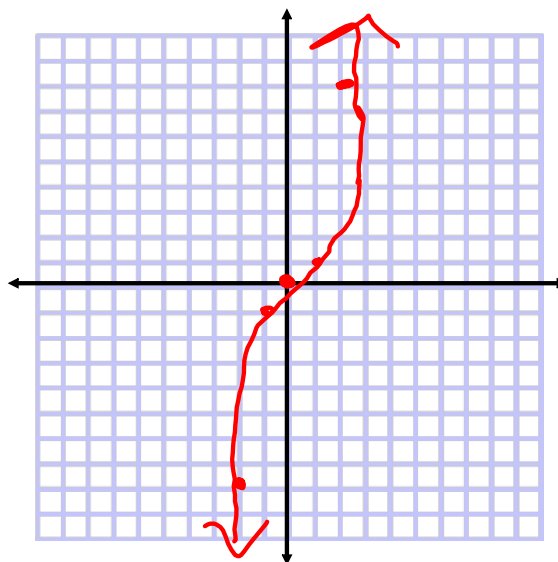
$$y = x^2$$



Name the equation of the given parent function. Then graph that function.

2) cubic

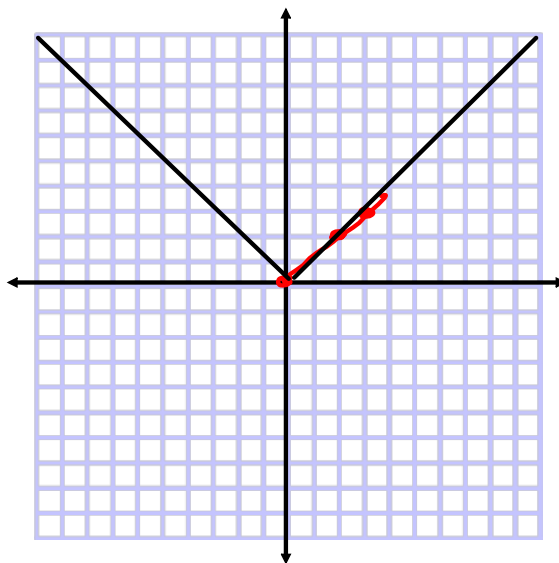
$$y = x^3$$



Name the equation of the given parent function. Then graph that function.

3) absolute value

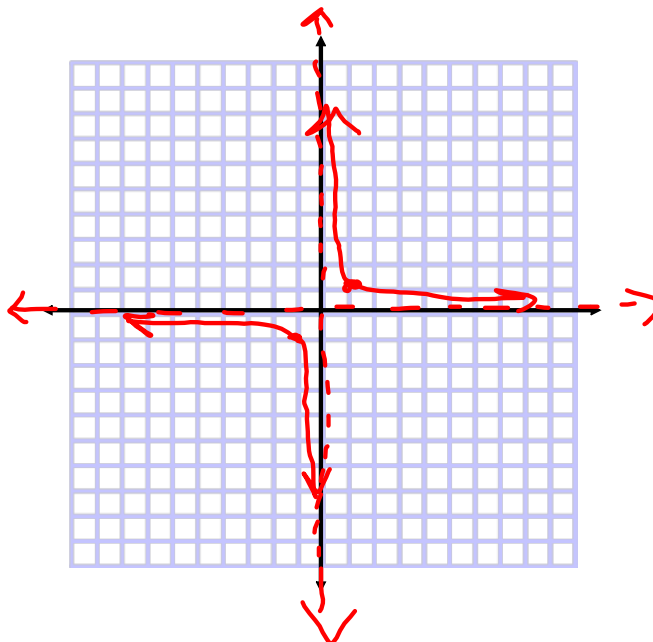
$$y = |x|$$



Name the equation of the given parent function. Then graph that function.

4) rational

$$y = \frac{1}{x}$$

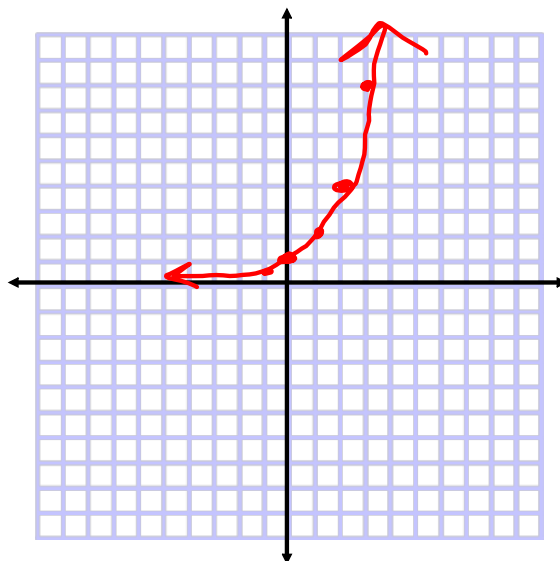


Name the equation of the given parent function. Then graph that function.

5) exponential

$$y = 2^x$$

x	y
0	$2^0 = 1$
1	$2^1 = 2$
2	$2^2 = 4$
3	$2^3 = 8$
-1	$2^{-1} = \frac{1}{2}$

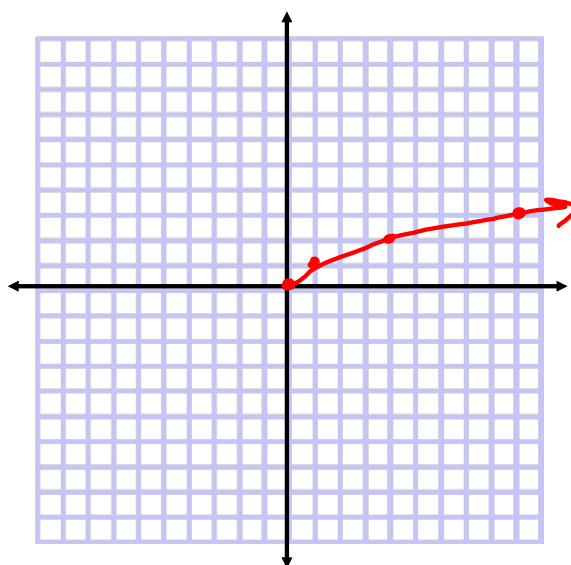


Name the equation of the given parent function. Then graph that function.

6) square root

$$y = \sqrt{x}$$

0	$\sqrt{0} = 0$
1	$\sqrt{1} = 1$
4	$\sqrt{4} = 2$
9	$\sqrt{9} = 3$



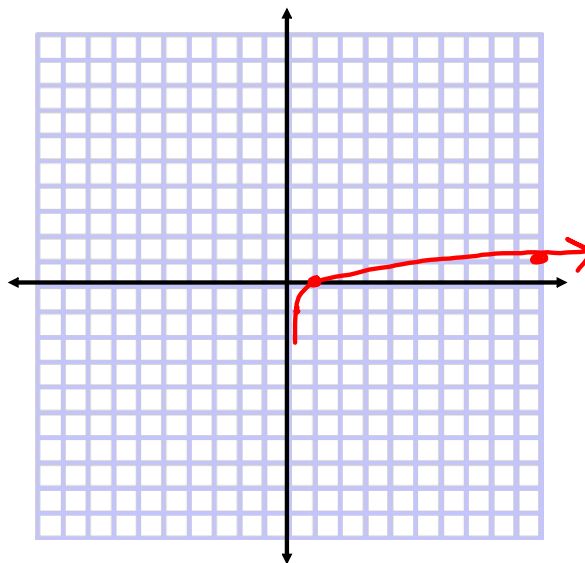
Name the equation of the given parent function. Then graph that function.

7) logarithmic

$$\log_{10}(x) = y$$

$$10^y = x$$

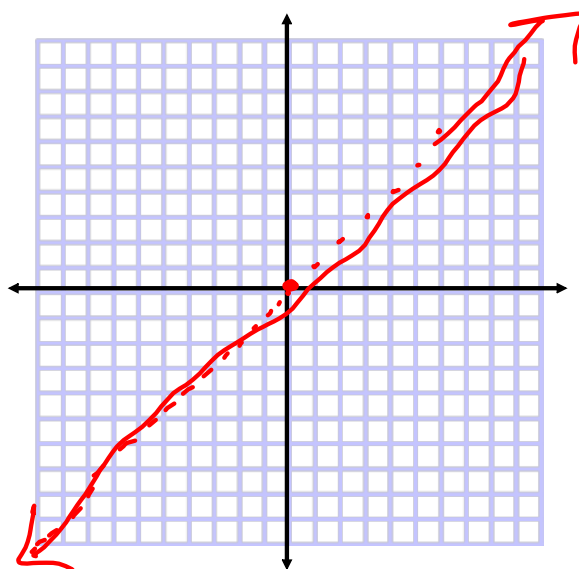
x	y
$10^0 = 1$	0
$10^1 = 10$	1
$10^{-1} = \frac{1}{10}$	-1

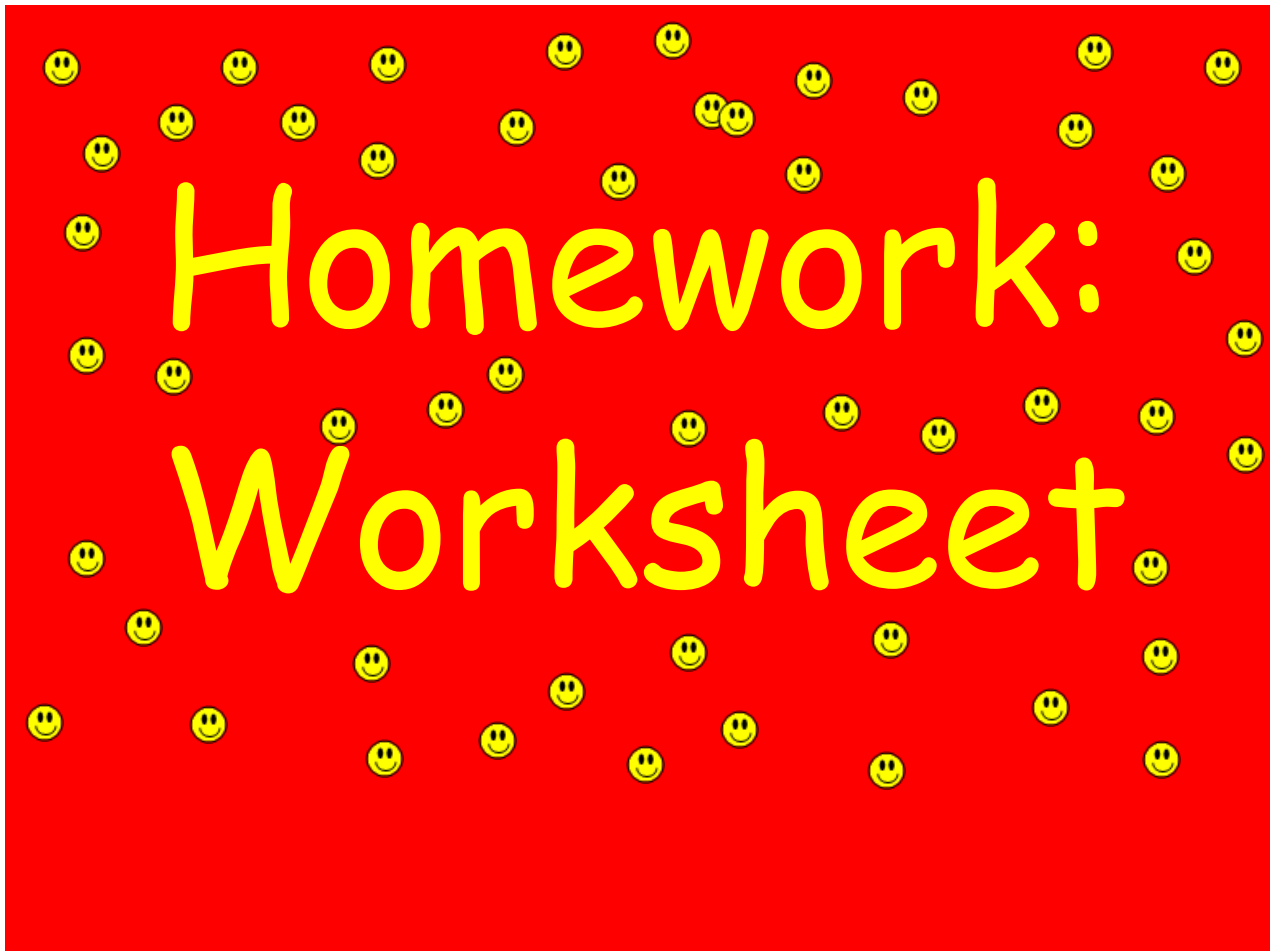


Name the equation of the given parent function. Then graph that function.

8) linear

$$y = x$$





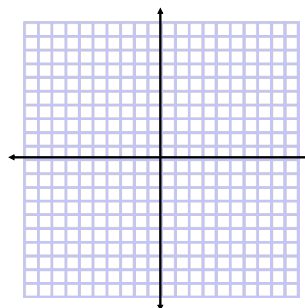
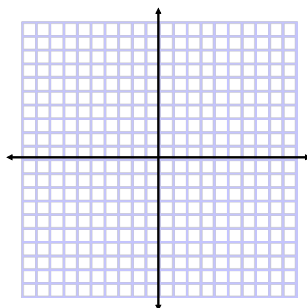
Algebra 2
5.2 Graph Parent Functions

Name: _____ Date: _____ Hr: _____

Name the equation of the given parent function. Then graph that function.

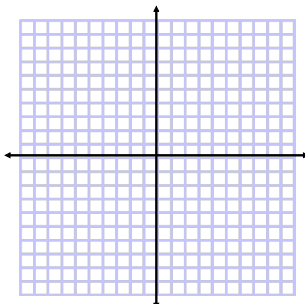
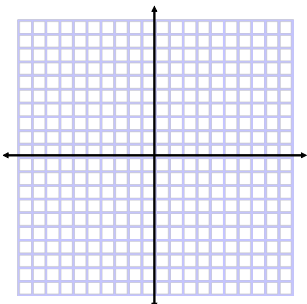
1) Linear: _____

2) Square Root: _____

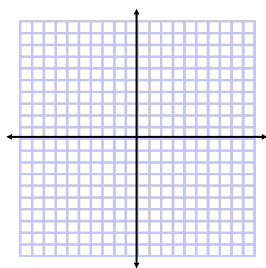


3) Quadratic: _____

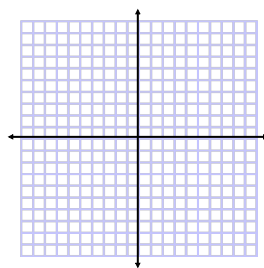
4) Cubic: _____



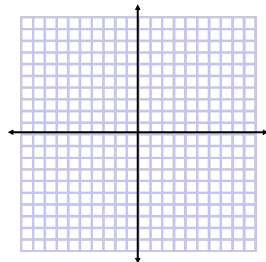
5) absolute value: _____



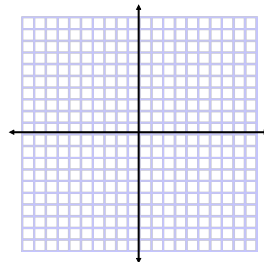
6) rational: _____



7) exponential: _____



8) logarithmic: _____



Extra Credit: Graph $y = x^4$

