Bell Work 4/27/2015

How do we know something is a quadratic?

Quadratic Investigation

Work on each set of graphs and answer the questions that follow.

Quadratic Investigation

Name: _____

Date: _____ Hour: ___

Use your graphing calculator to complete the following. Graphs should show the general shape and direction of the parabola.

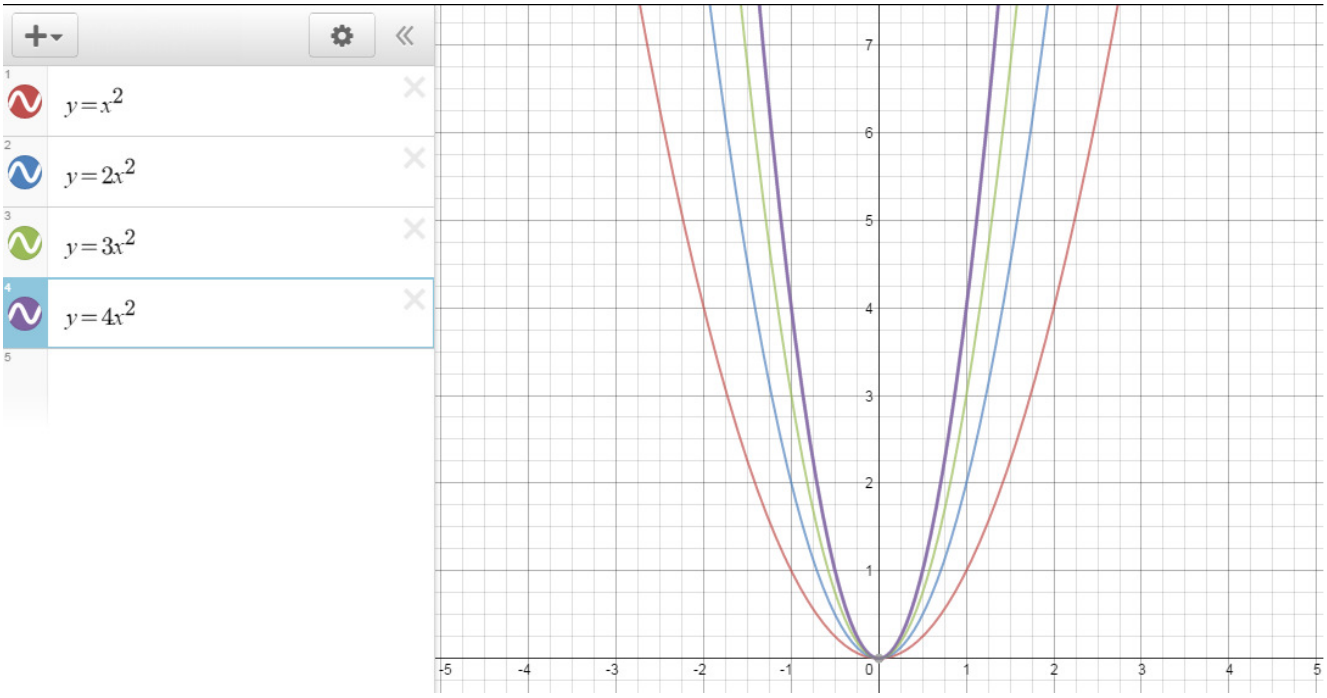
Graph the following:

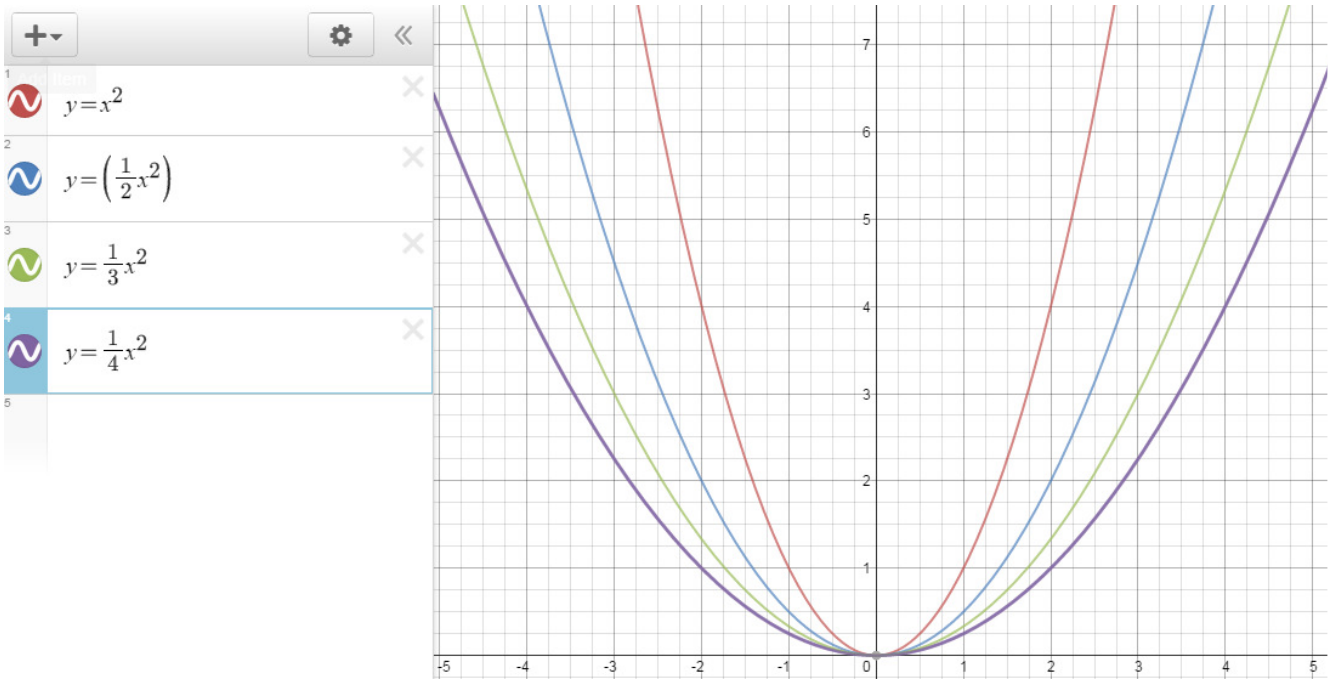
1. $y = x^2$
2. $y = 2x^2$
3. $y = 3x^2$
4. $y = 4x^2$

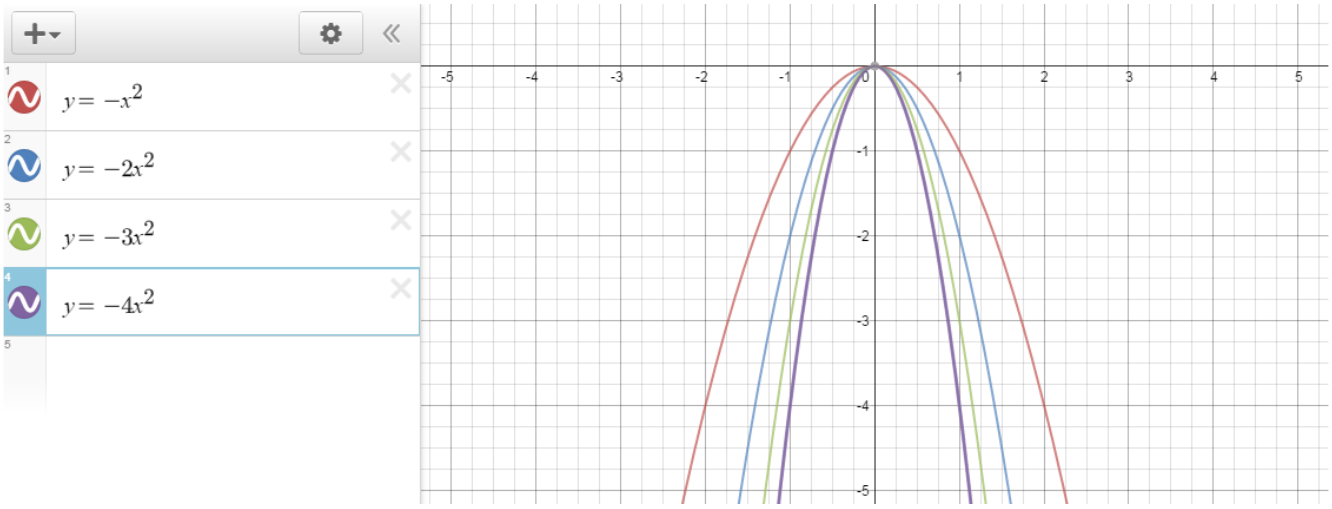
Of the 4 graphs you just completed, what one grows the slowest? Fastest?

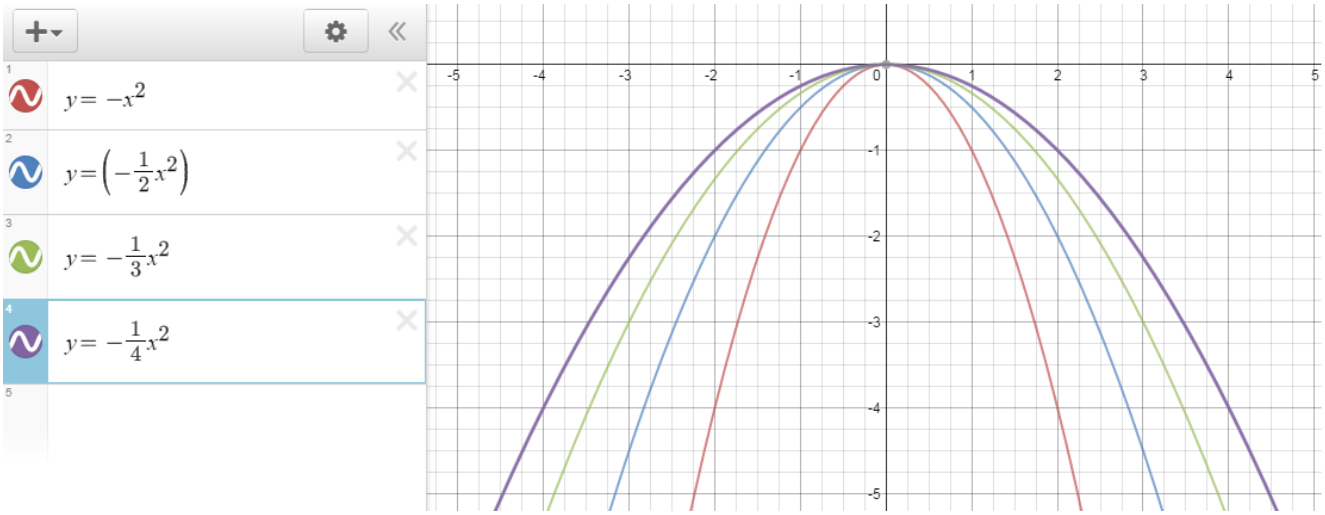
Graph the following:

1. $y = x^2$
2. $y = \frac{1}{2}x^2$
3. $y = \frac{1}{3}x^2$
4. $y = \frac{1}{4}x^2$


$y=x^2$
$y=2x^2$
$y=3x^2$
$y=4x^2$
7
6
5
4
3
2
1
-5
-4
-3
-2
-1
0
1
2
3
4
5


$y=x^2$
$y=\left(\frac{1}{2}x^2\right)$
$y=\frac{1}{3}x^2$
$y=\frac{1}{4}x^2$
7
6
5
4
3
2
1
-5
-4
-3
-2
-1
0
1
2
3
4
5


$y = -x^2$
$y = -2x^2$
$y = -3x^2$
$y = -4x^2$

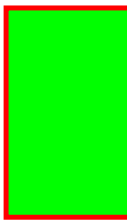

1
$y=-x^2$
2
$y=\left(-\frac{1}{2}x^2\right)$
3
$y=-\frac{1}{3}x^2$
4
$y=-\frac{1}{4}x^2$
5
-5 -4 -3 -2 -1 0 1 2 3 4 5
-1 -2 -3 -4 -5

Conclusion:

What determines how 'fast' a graph grows?

Fast - - Larger number as leading coefficient

Slow - - Leading coefficient is less than one



What determines the direction of the parabola? (open up or open down)

Positive leading coefficient - - open up

Negative leading coefficient - - open down