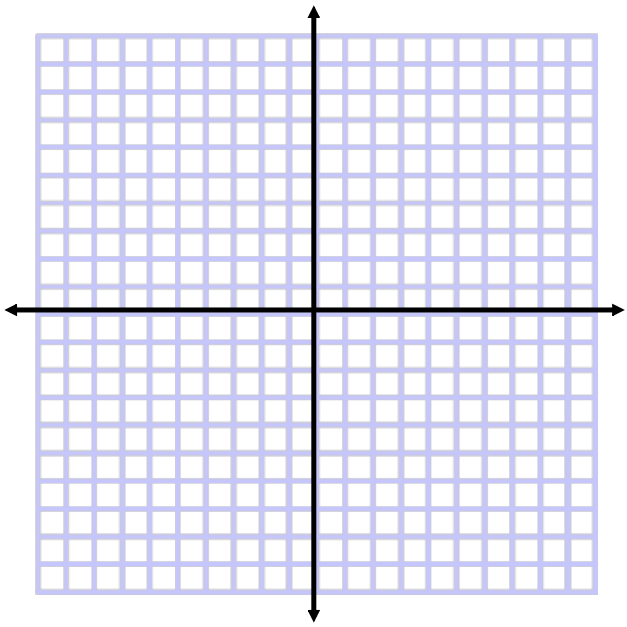
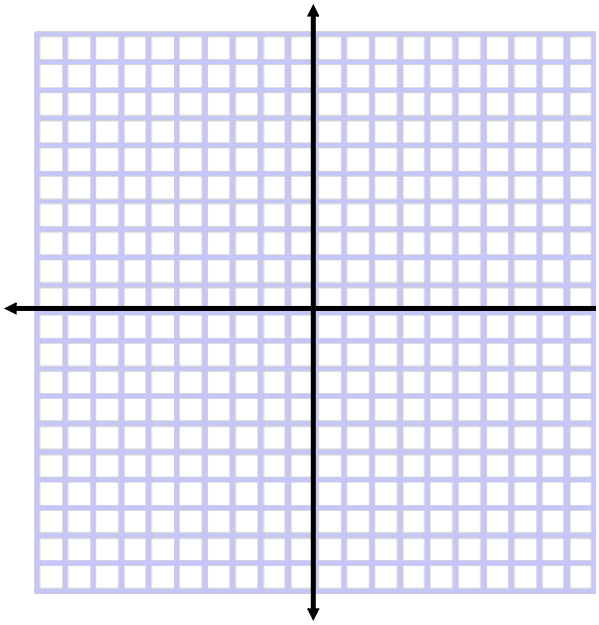
1.7 More Transformations

More Graphing: (by counting stretch from vertex)

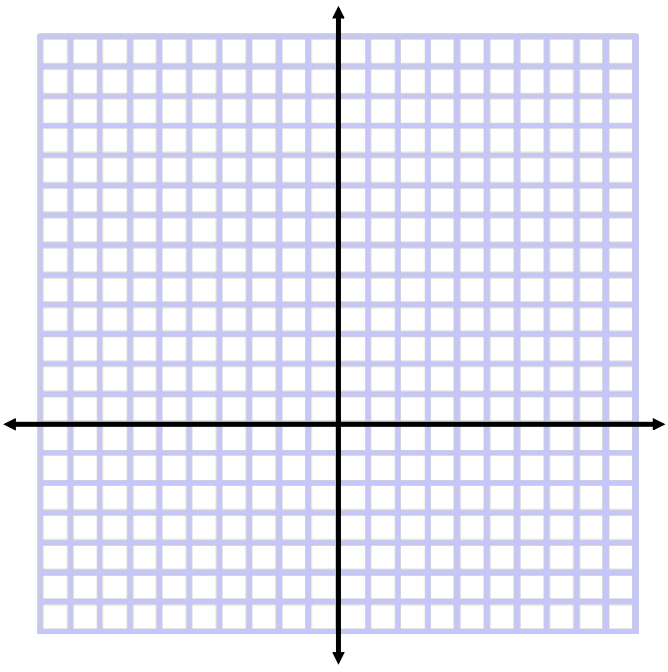
Ex 1 Sketch $F(x) = 3(x+4)^2-5$



Ex 2 Sketch $F(x) = -2(x-1)^2+6$



Ex 3: Sketch $F(x) = \frac{1}{3}x^2$



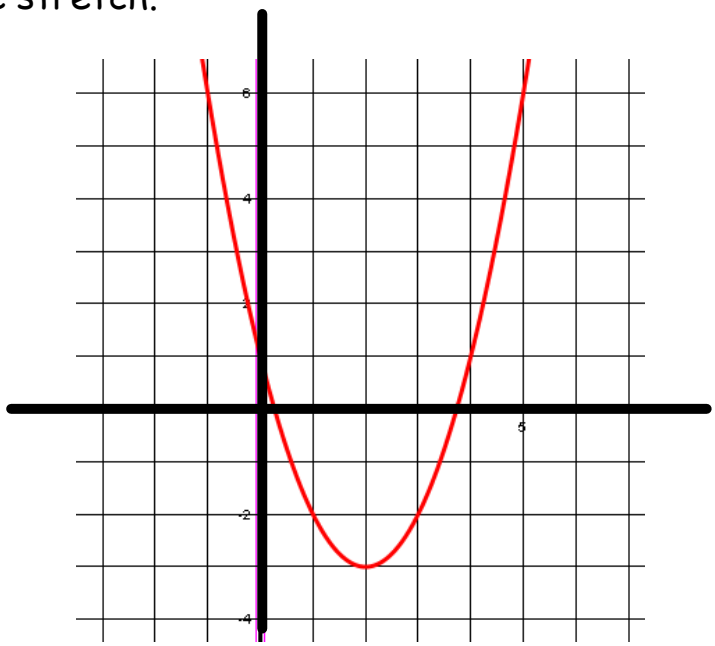
State an Equation given the Graph:

Easiest to state the equation in $f(x) = a(x - h)^2 + k$ form if you can see the vertex.

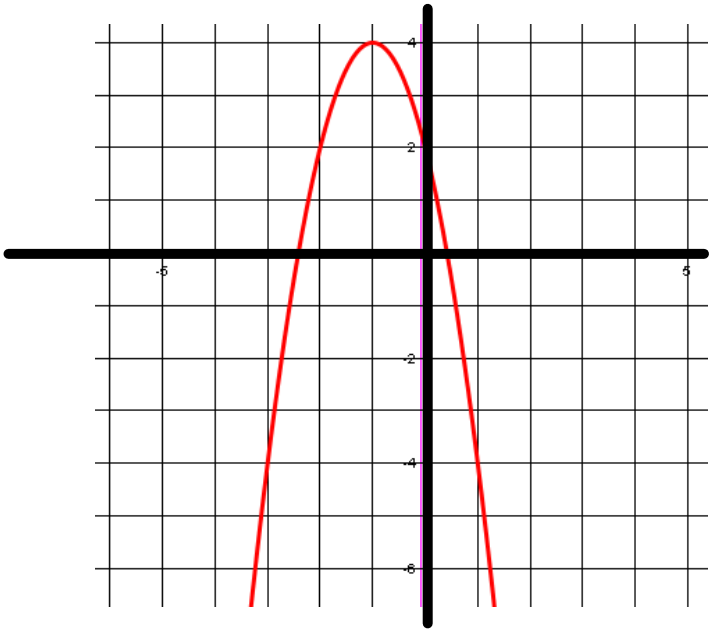
1. Find the vertex (h, k)
2. Find "a" - decide if pos or neg from direction of opening then count the stretch.

State an equation for each of the following:

Ex 1:



Ex 2:

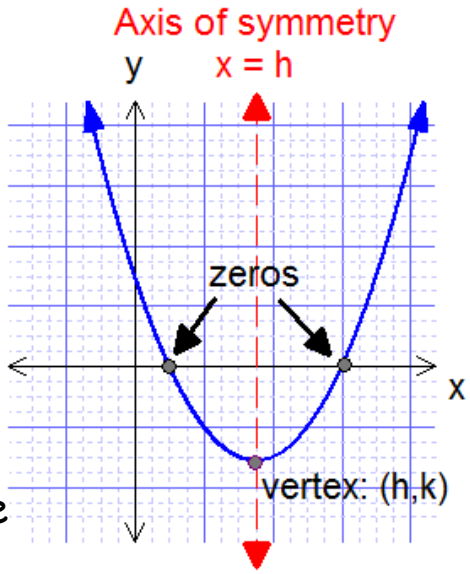


Can't count the stretch....What do I do???

Find an equation of the parabola that has a vertex of (3, -2) and has an x intercept of 5

Features of Quadratics

- The vertex of a parabola is either the minimum point (opens up) or maximum point (opens down).
- A vertical line of symmetry which goes through the vertex is called the axis of symmetry .
- The x-intercept(s) of a parabola are called its zeros or roots.

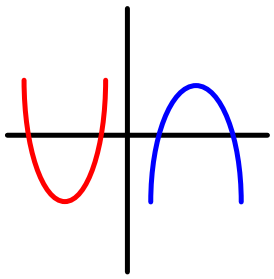


x intercepts, solutions, roots

The Number of zeros:

State the Number of zeroes:

a) From the graph:

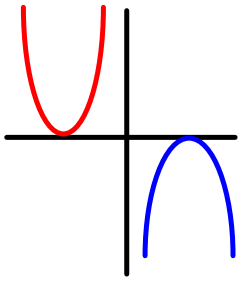


Direction
of opening:_____
vertex above
or below axis:_____

# of zeros:_____

Direction
of opening:_____
vertex above
or below axis:_____

# of zeros:_____

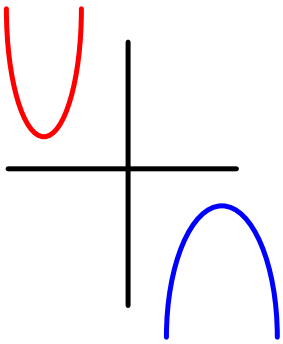


Direction
of opening:_____
vertex above
or below axis:_____

# of zeros:_____

Direction
of opening:_____
vertex above
or below axis:_____

# of zeros:_____



Direction
of opening:_____
vertex above
or below axis:_____

# of zeros:_____

Direction
of opening:_____
vertex above
or below axis:_____

# of zeros:_____

Max/Min and the Number of zeros:

From the Equation:

$y = 3(x+7)^2-5$

Direction
of opening:_____
vertex above
or below axis:_____

# of zeros:_____

Max/min: _____

occurs when:-----_____

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

Direction
of opening:_____
vertex above
or below axis:_____

# of zeros:_____

Max/min: _____

occurs when:-----_____

$y = 2(x-4)^2+8$

Direction
of opening:_____
vertex above
or below axis:_____

# of zeros:_____

Max/min: _____

occurs when:-----_____

work break ....

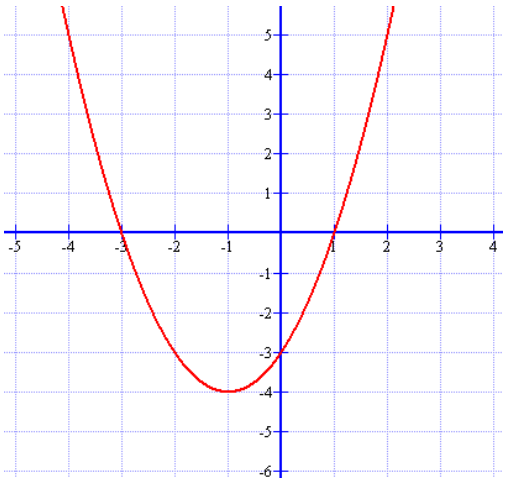
p47 # 1 State the number of zeros given the graph

2 State the number of zeros,max/min and when it occurs given the equation

We will take this up as a class in 10 min

Stating the Zeros

From a graph:



From an equation in VERTEX form:

$y = 3(x-2)^2 - 5$

$y = -4(x+3)^2 - 8$

Hmwk p 56 # 3 - 5, 7
p 204 # 5 (using algebra),8 ab, 9ab
Graphing Assignment Tomorrow
(will be marked)