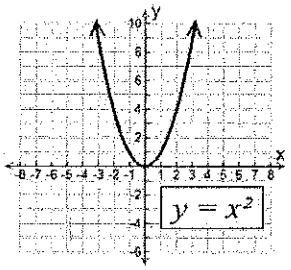
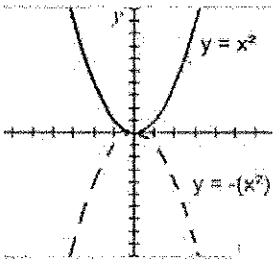
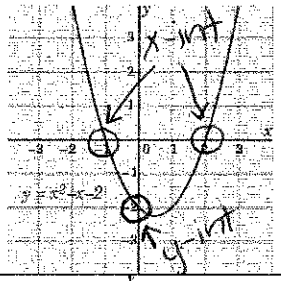
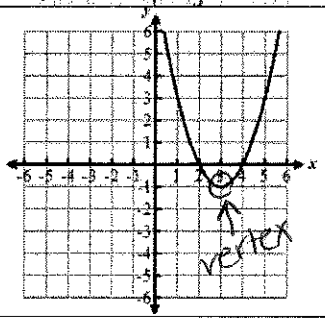
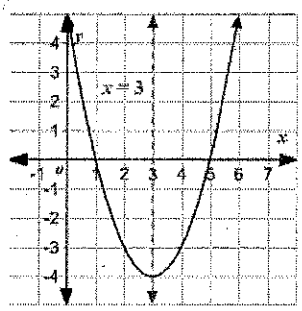
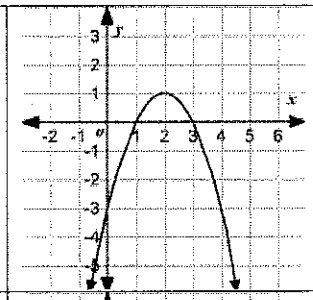
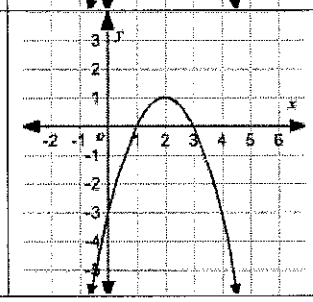
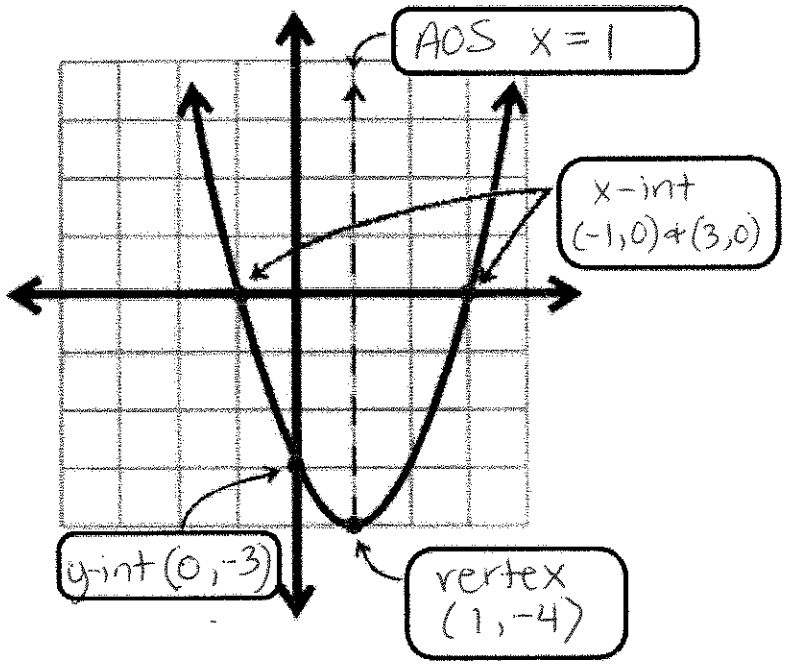
VOCABULARY WORD	PICTURE	DEFINITION	SYMBOL / UNIT / FORMULA, ETC	KEY WORD
Quadratic Function	PARENT FUNCTION 	A 2nd degree polynomial. parent function is $y = x^2$	Standard form $f(x) = ax^2 + bx + c$	Quadratic Parabola "U" shaped graph
Parabolas		A "U" shaped graph that represents a Quadratic function.	↑↑ "a" term is positive ↓↓ "a" term in negative	← smiley face ← frowny face
Intercepts		The points (x, y) where a graph crosses the x or y axis.	Ex. y-int = (0, -2) x-int = (-1, 0) and (2, 0)	intersection point ~~~ x-int can be called roots, zeros, solutions
Vertex		The highest or lowest point on a parabola.	Vertex Form $y = a(x-h)^2 + k$ vertex (h, K) ~~~ Ex. vertex = (3, -1)	maximum or a minimum ~~~ extrema
Axis of Symmetry		The equation of a line that divides a parabola in ½. x-value of the vertex.	ex. x = 3 is the AOS. ~~~ $x = \frac{-b}{2a}$	fold line or a line of reflection

Domain		The x-values of a function. How far left and right you can go?	Ex. $(-\infty, \infty)$ for all Quadratic functions	inputs or x-values
Range		The y-values of a function. How low and high can you go?	Ex. $(-\infty, 1]$	outputs or y-values

There are 6 basic characteristics you need to pay attention to when graphing quadratic functions:

1. Vertex
2. Axis of Symmetry (AOS)
3. x-intercepts (roots)
4. y-intercepts
5. Domain and Range
6. Direction of Parabola – The parabola will open "up" when the leading coefficient is positive

   The parabola will open "down" when the leading coefficient is negative.



The leading coefficient of this graph would be

Positive

Domain:

$(-\infty, \infty)$

Range:

$[-4, \infty)$