



9-3 Notes:

$Ax^2 + Bx + C = 0$  = quadratic form  
 or  $A(x-h)^2 + C = 0$  = vertex form

If  $C > 0$ , the graph is **translated** upward.  
 If  $C < 0$ , the graph is **translated** downward.

If the leading operation is negative, the graph is **inverted**--it opens downward instead of upward.

If  $A$  is not equal to one, the graph is **dilated**:

If  $A > 1$ , the graph is squeezed horizontally (and stretched vertically)

If  $A < 1$ , the graph is squeezed vertically (and stretched horizontally)

If  $A(x-h)^2$  is not  $h=0$ , the graph is translated left or right. If  $h > 0$  it moves right, and if  $h < 0$  it moves left.

Make a checklist:

1. If the lead operation is negative, it's inverted.
2. If  $A$  is not one, then the graph is dilated.
3. If  $C$  is not zero, the graph is translated up or down.
4. If there is an  $H$  that is not zero, it's translated left or right.