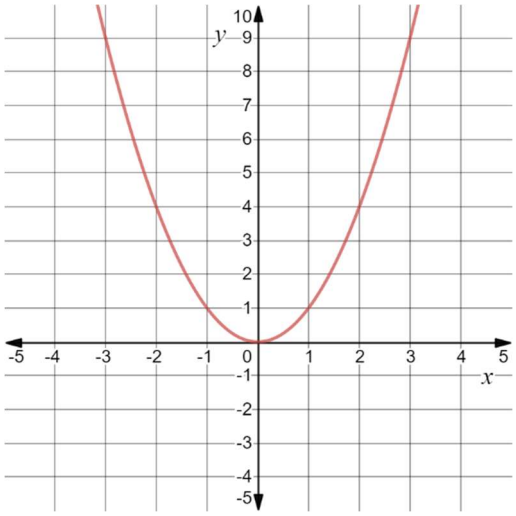
Name: _____ Date: _____

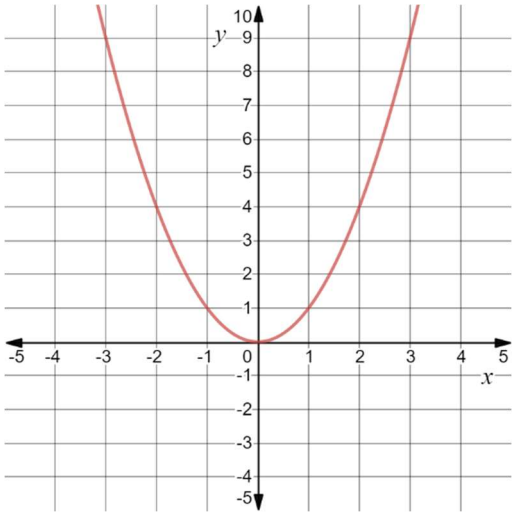
Learning Goal 3.1	Given a quadratic function, identify the transformations that graph has undergone from the standard graph of $y = x^2$.

In your groups, without the use of a graphing calculator, graph these 2 functions using tables of values.

Graph $f(x) = x^2 + 2$



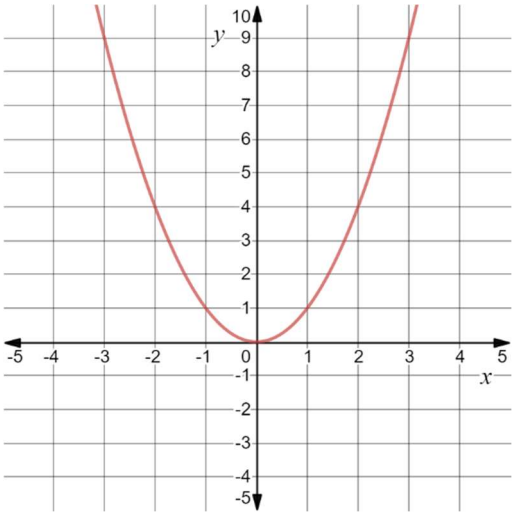
Graph $f(x) = x^2 - 3$



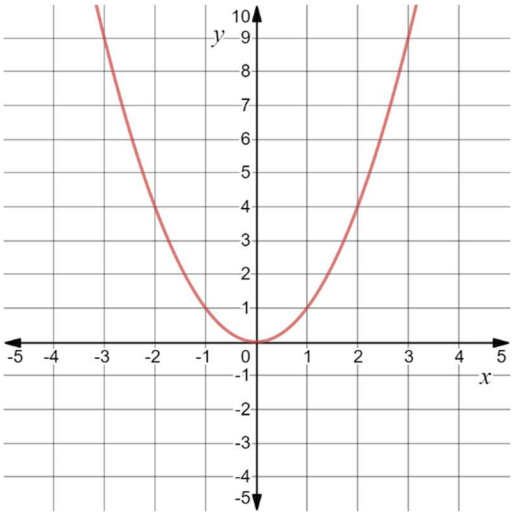
What conclusions can you draw about what is happening to your graph?

Use those conclusions to graph the following functions (trying not to use a table of values).

Graph $f(x) = x^2 - 4$



Graph $f(x) = x^2 + 3$

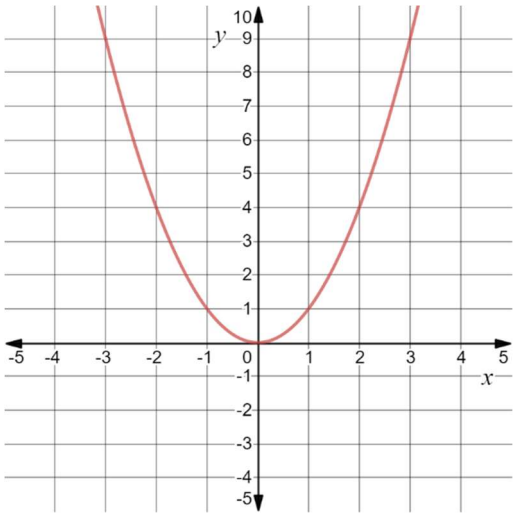


What would you say about the graph of the function $f(x) = x^2 + q$ if:

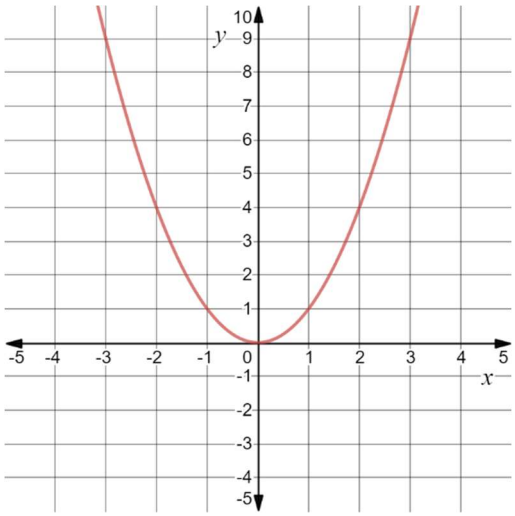
- q is positive?
- q is negative?

In your groups, without the use of a graphing calculator, graph these 2 functions using tables of values.

Graph $f(x) = (x + 3)^2$

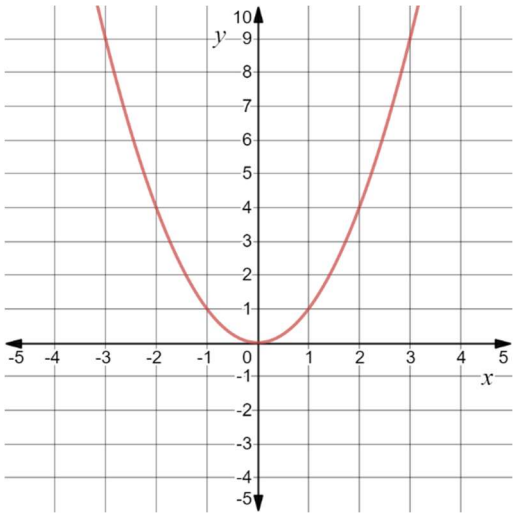


Graph $f(x) = (x - 2)^2$

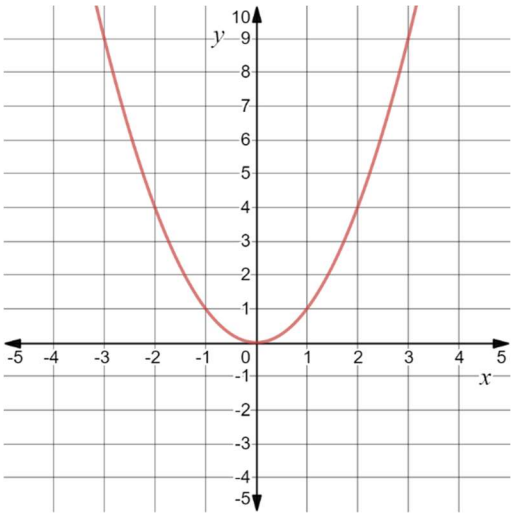


What conclusions can you draw about what is happening to your graph?

Graph $f(x) = (x - 1)^2$



Graph $f(x) = (x + 2)^2$



What would you say about the graph of the function $f(x) = (x - p)^2$ if:

- p is positive?
- p is negative?