Bellwork

1. What does it mean to compare two things?

2. Do you use several methods of graphing or just the first method we talked about?

3. Name all of the key elements of a quadratic functions graph. *(Known as a Parabola)*

Analyzing and Comparing: Quadratic Functions

Analyzing:

- Find the Axis of Symmetry (AOS).
- Find the Vertex.
- Find the x-intercept(s).
- Find the y-intercept.
- Identify how the Leading Coefficient predetermined the look of the graph.

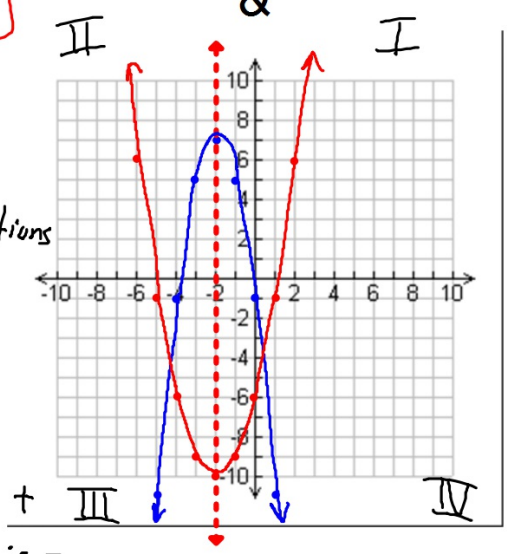
Comparing:

- Are there any similarities between the graphs of the functions?
- Are there any differences between the graphs of the functions?

Example

1. Analyze and Compare the following functions:

$f(x) = x^2 + 4x - 6$ & $g(x) = -2x^2 - 8x - 1$



Compare

AOS for both equations is $x = -2$

Vertex for $f(x)$ in Q3
$g(x)$ in Q2

$f(x)$ goes up since a is +
$g(x)$ goes down since a is −

y-int: $f(x)$ & $g(x)$ are both neg.

x-int: Both have 2, and not nice pairs.