Transformations

Now that we have learned what each transformation does to the original graph, it is important to know how the order in which to apply those transformations in order to generate the resulting graph.

Suppose you have the function: \( f(x) = -2(x - 5)^3 + 4 \)

Listed below is a standard order in which transformations should be applied to functions.

**Transformation Order**
1. Identify the base function:
   \( f(x) = x^3 \)
2. Horizontal stretch/shrink
   *N/A for this problem*
3. Reflection across the y-axis
   *N/A for this problem*
4. Horizontal translation
   *Move the graph to the right 5 units*
5. Vertical stretch/shrink
   *Stretch the graph vertically by a factor of 2*
6. Reflection across the x-axis
   *Yes*
7. Vertical Translation
   *Move the graph up 4 units*