Activity 2: Practice Applying Transformations to Other Functions

1. Consider the function $f(x) = \sqrt{x-7} + 4$

   a. Using the patterns you observed above, what is the parent function?

   b. How is the graph of $f(x)$ related to the graph of its parent function? Use Desmos to verify your response.

2. Consider the function $f(x) = 4(x-3)^3 - 1$

   a. Using the patterns you observed above, what is the parent function?

   a. How is the graph of $f(x)$ related to the graph of its parent function? Use Desmos to verify your response.

3. Consider the function $f(x) = -|x-2|$

   b. Using the patterns you observed above, what is the parent function?

   a. How is the graph of $f(x)$ related to the graph of its parent function? Use Desmos to verify your response.

4. Create an equation that transforms $f(x) = \sqrt{x}$ by moving it 4 units to the left, 5 units down, reflecting it over the y-axis, and stretching it vertically by 2 units. Use Desmos to verify your response.