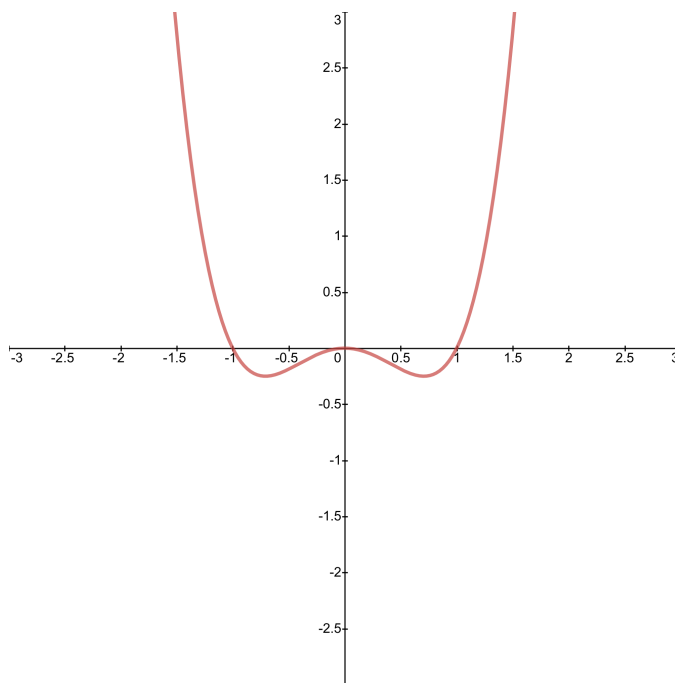Name: _____

Quiz 2

Math 112

You have 20 minutes to complete **both sides** of this quiz and upload your work to Canvas. Write your answers on a separate sheet of paper and scan them with a scanning app. When you're finished, first check your work if there is time remaining, then turn it in. You may use a scientific calculator, but not a graphing one — and you may not consult other people or the internet. **Show all your work.**

1. (8 points) Let $f(x) = -3(4x + 1)^2 + 2$. Identify the parent function and every transformation applied to it, but don't graph anything.

2. (8 points) Below is the graph of $y = x^4 - x^2$. Sketch a graph of the function $y = (2x - 2)^4 - (2x - 2)^2$, and **explain your reasoning.**

3. (8 points) Let f be a periodic function. State the definition of the midline of f, assuming it exists.