2.(9 points) On the axes below, sketch a graph of a single **function**, g, with **all** of the following properties.

- $g(-2) = g(2) = 1$
- $g'(x) = 0$ for $x < -2$ and $x > 2$
- $g'(x) < 0$ for $-2 < x < 2$
- $\lim_{x \to -2^+} g(x) = \infty$ and $\lim_{x \to 2^-} g(x) = -\infty$
- $g''(x) > 0$ for $-2 < x < 0$
- $g''(x) < 0$ for $0 < x < 2$