

4. [10 points] On the axes provided below, sketch the graph of a single function $g(x)$ that satisfies all of the following conditions:

- the domain of the function $g(x)$ contains $-6 < x < 6$
- $g(x)$ is increasing for $-5 < x < -2$
- $\lim_{x \rightarrow -2} g(x) = 1$
- $g(x)$ is not continuous at -2
- $g(0) = -3$
- the average rate of change of $g(x)$ from $x = -2$ to $x = 0$ is $-\frac{1}{2}$
- $g(x)$ is constant for $0 < x < 3$
- $\lim_{x \rightarrow 4^-} g(x) = g(4)$
- $g(x)$ is not continuous at 4
- $g'(x)$ is constant for $4 < x < 6$

