

2. [10 points] On the axes provided below, sketch the graph of **one** possible function $y = f(x)$, satisfying all of the following requirements. Your graph should clearly show the properties listed below to receive full credit.

- The domain of $f(x)$ is the interval $-6 < x < 6$.
- The range of $f(x)$ is $-5 < y \leq 4$.
- $f(-4) = -3$.
- $f(x)$ has a constant rate of change for $-6 < x < -3$.
- $f(x)$ is increasing on the interval $-3 < x < 0$.
- The average rate of change of $f(x)$ is -1 for $0 \leq x \leq 2$.
- $f(x)$ has a zero at $x = 3$.
- The graph of $f(x)$ is concave up for $2 < x < 6$.
- $f(x)$ is decreasing for $2 < x < 6$.

