

6. [6 points] On the axes below, sketch the graph of a single function $y = f(x)$ with all of the following properties:

- The domain of $f(x)$ is $-5 \leq x < \infty$.
- The range of $f(x)$ is $-3 \leq y < 3$.
- $f(x)$ is concave down on the interval $-5 \leq x \leq -3$.
- $f(x)$ is decreasing on the interval $-4 \leq x \leq -1$.
- The average rate of change of $f(x)$ between $x = -1$ and $x = 3$ is $1/2$.
- $f(x) \rightarrow 3$ as $x \rightarrow \infty$

Note: there are many possible solutions.

