

6. [12 points] On the axes provided below, sketch the graph of a single function $y = h(x)$ satisfying all of the following:

- $h(x)$ is defined for all x in the interval $-5 < x < 5$.
- $h'(x) > 0$ for all $x < -3$.
- $\lim_{x \rightarrow -2} h(x) = 0$.
- $h(-2) = -3$.
- The average rate of change of $h(x)$ between $x = -1$ and $x = 1$ is 2.
- $h(1) = 2$.
- $h(x)$ is linear between $x = 1$ and $x = 3$.
- $h'(2) = -1$.
- $\lim_{x \rightarrow 4^-} h(x) = -1$.
- $\lim_{x \rightarrow 4} h(x)$ does not exist.
- $h'(x) < 0$ for all $x > 4$.

Make sure that your sketch is large and unambiguous.

