9. [10 points] On the axes below, sketch a well-labeled graph of a function $f(x)$, defined for all x, satisfying the following properties:

- $f(0) = 0$.

- $\lim\limits_{x \to 1} f(x)$ exists but $f(x)$ is not continuous at $x = 1$.

- $f'(x)$ is increasing on the interval $(3, 5)$.

- $f''(x)$ changes sign at $x = -3$.

- $f'(4) > 0$.

- $f(x) = f(x + 5)$ for all x.

You need only show the graph on the domain $[-5, 5]$.