9. [8 points] On the axes provided below, sketch the graph of a single function f satisfying all of the following:

○ $f''(x) > 0$ for $x < -2$.

○ The graph of f has a vertical asymptote at $x = -2$.

○ $f'(-1) = -3$

○ $\lim_{x \to 0} f(x) = 2$

○ $f(0) = -2$

○ f is continuous but not differentiable at $x = 1$.

○ $f'(x) > 0$ for $x > 3$.

○ $\lim_{x \to \infty} f(x) = 4$

Remember to clearly label your graph.

Solution: A possible graph of the function is shown below: