

9. [9 points] On the grid below, sketch the graph of a **single function**  $f(x)$  that fulfills all the requirements below.

- The domain of  $f$  is  $[-6, 5)$
- The range of  $f$  is  $[-5, 6]$
- $f(-1) = 2$  and the average rate of change of  $f(x)$  on the interval  $[-1, 3]$  is  $-1$
- $f(x) < 1$  for  $x < -1$
- $f$  has a constant rate of change on the interval  $[-6, -1)$ .
- $f$  is increasing on the interval  $[-6, -1)$
- $f$  is concave down on the interval  $[-1, 1)$
- $f$  is decreasing on the interval  $[1, 3]$
- $f$  is concave up on the interval  $(3, 5)$

