5. [5 points] On the axes provided below, sketch the graph of a single function $y = f(x)$ satisfying all of the following conditions:

(i) the function $f(x)$ is defined on $-6 < x < 6$ and continuous on $-6 < x < 3$,

(ii) the average rate of change of $f(x)$ on $[-5, -3]$ is equal to 2,

(iii) $f'(x) = -\frac{1}{2}$ for $1 < x < 3$,

(iv) $f(x) = f(-x)$ for $-3 \le x \le 3$,

(v) $f(x)$ is concave up and decreasing for $4 < x < 6$.