

8. (6 points) On the axes below, sketch a possible graph of a single function $y = g(x)$ satisfying all of the properties below: [Label your points on the axes.]

(i) $g(x)$ is defined and continuous for all values of x .

(ii) $g(x)$ has critical points at $x = -1$ and $x = 4$.

(iii) $g'(x) \geq 0$ on $(-\infty, 4)$.

(iv) $g(x)$ is decreasing on $(4, \infty)$.

(v) $\lim_{x \rightarrow \infty} g(x) = -2$.

