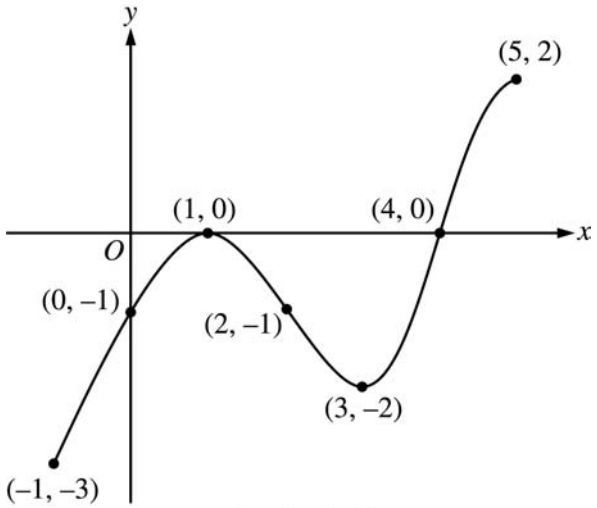
**CALCULUS AB**
**SECTION II, Part B**
**Time—45 minutes**
**Number of problems—3**

**No calculator is allowed for these problems.**



Graph of $f'$

4. The figure above shows the graph of $f'$, the derivative of the function $f$, on the closed interval $-1 \le x \le 5$. The graph of $f'$ has horizontal tangent lines at $x = 1$ and $x = 3$. The function $f$ is twice differentiable with $f(2) = 6$.

   (a) Find the $x$-coordinate of each of the points of inflection of the graph of $f$. Give a reason for your answer.

   (b) At what value of $x$ does $f$ attain its absolute minimum value on the closed interval $-1 \le x \le 5$? At what value of $x$ does $f$ attain its absolute maximum value on the closed interval $-1 \le x \le 5$? Show the analysis that leads to your answers.

   (c) Let $g$ be the function defined by $g(x) = xf(x)$. Find an equation for the line tangent to the graph of $g$ at $x = 2$.