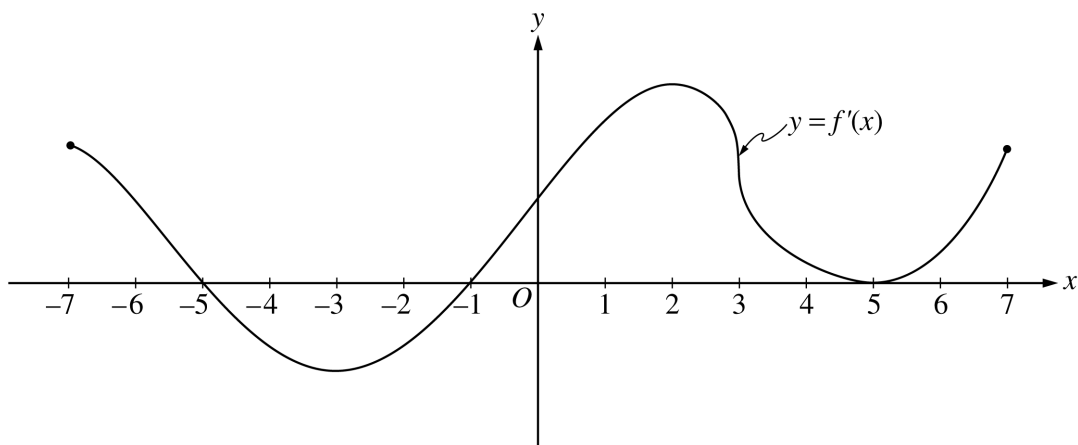


2000 AP® CALCULUS AB FREE-RESPONSE QUESTIONS



3. The figure above shows the graph of f' , the derivative of the function f , for $-7 \leq x \leq 7$. The graph of f' has horizontal tangent lines at $x = -3$, $x = 2$, and $x = 5$, and a vertical tangent line at $x = 3$.
- (a) Find all values of x , for $-7 < x < 7$, at which f attains a relative minimum. Justify your answer.
 - (b) Find all values of x , for $-7 < x < 7$, at which f attains a relative maximum. Justify your answer.
 - (c) Find all values of x , for $-7 < x < 7$, at which $f''(x) < 0$.
 - (d) At what value of x , for $-7 \leq x \leq 7$, does f attain its absolute maximum? Justify your answer.
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END OF PART A OF SECTION II