

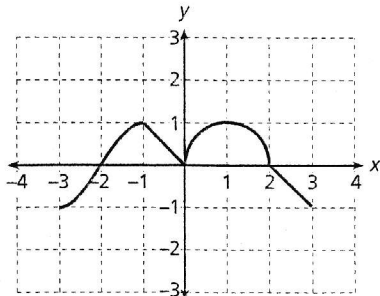
Name _____ worked with _____

AB Primer # 3

due Monday before 1st period

SHOW ALL OF YOUR WORK. Indicate clearly the methods you use because you will be graded on the correctness of your methods as well as the accuracy of your final answers.

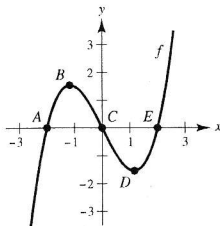
1. The graph of $f'(x)$ is given below for $x \in [-3, 3]$. On which interval(s) is the function $f(x)$ both increasing and concave up?



- (A) $(-2, 2)$
 (B) $(-2, 0) \cup (0, 2)$
 (C) $(-3, -2)$
 (D) $(-2, -1) \cup (0, 1)$
 (E) none of these

2. At which point A , B , C , D , or E on the graph of $y = f(x)$ are both y' and y'' positive?

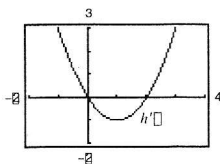
- (a) A (b) B (c) C (d) D (e) E



3. Given the graph of $h'(x)$, which of the following statements are true about the graph of h ?

- I. The graph of h has a point of inflection at $x = 1$.
 II. The graph of h has a relative extremum at $x = 0$.
 III. The graph of h has a relative extremum at $x = 1$.

- (a) I only (b) II only (c) III only (d) I and II only (e) I and III only



Free Response

The graph of the function f is shown in the figure.

- (a) Estimate $f'(0)$.
 (b) On what open intervals is f increasing?
 (c) On what open intervals is f concave downwards?
 (d) What are the critical numbers of f ?
 (e) Sketch the graph of f' .

