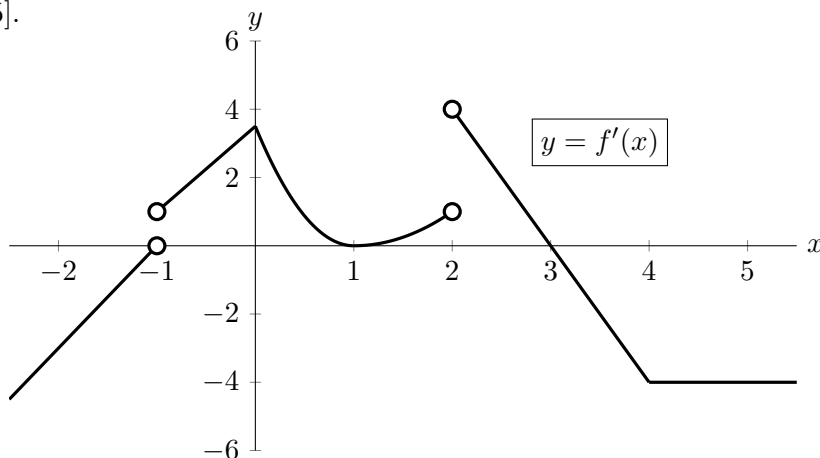


9. [12 points] The graph of a portion of the derivative of a function  $f(x)$  is given below. Assume that the domain of  $f$  is all real numbers, and that  $f$  is continuous on the entire interval  $[-2, 5]$ .



Use the graph above to answer the following questions. For each question, circle all of the available correct answers.

(Circle NONE OF THESE if none of the available choices are correct.)

- a. [2 points] At which of the following values of  $x$  does  $f(x)$  appear to have a critical point?

$x = 0$        $x = 1$        $x = 2$        $x = 3$        $x = 4$       NONE OF THESE

- b. [2 points] At which of the following values of  $x$  does  $f'(x)$  appear to have a critical point?

$x = 0$        $x = 1$        $x = 3$        $x = 4$       NONE OF THESE

- c. [2 points] At which of the following values of  $x$  does  $f(x)$  attain a local extremum?

$x = -1$        $x = 0$        $x = 1$        $x = 3$       NONE OF THESE

- d. [2 points] At which of the following values of  $x$  does  $f(x)$  attain a global maximum on the interval  $[-1, 3]$ ?

$x = -1$        $x = 0$        $x = 1$        $x = 2$        $x = 3$       NONE OF THESE

- e. [2 points] At which of the following values of  $x$  does  $f(x)$  have an inflection point?

$x = -1$        $x = 0$        $x = 1$        $x = 2$        $x = 3$       NONE OF THESE

- f. [2 points] For which of the following intervals is  $f(x)$  concave up on the entire interval?

$-1 < x < 0$        $0 < x < 1$        $1 < x < 2$        $2 < x < 4$       NONE OF THESE