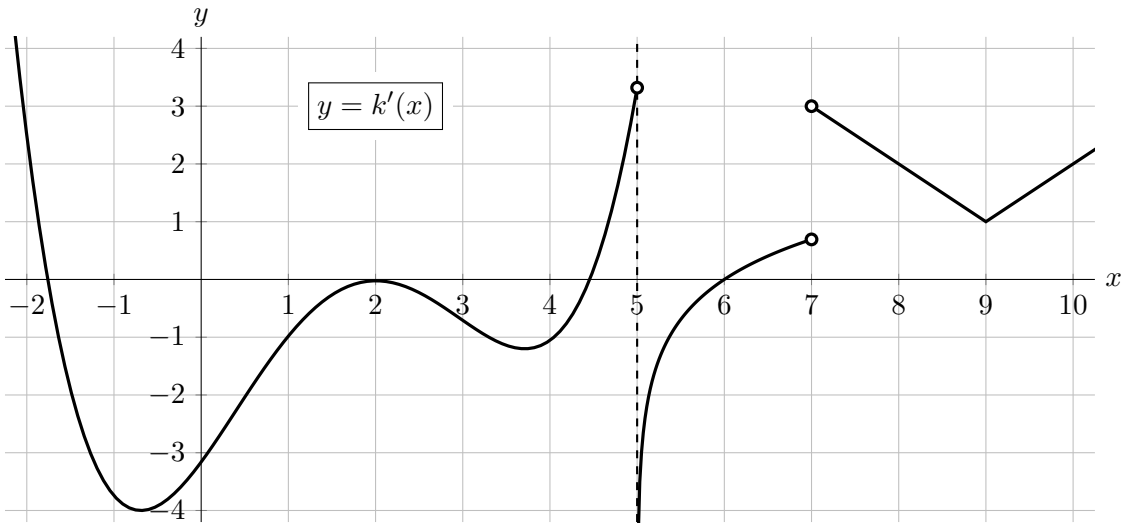
8. [8 points] Suppose $k(x)$ is a continuous function, defined for all real numbers. A portion of the graph of $k'(x)$, the **derivative** of $k(x)$, is given below. Note that $k'(x)$ has a vertical asymptote at $x = 5$ and a sharp corner at $x = 9$.



a. [2 points] Circle the least value that is listed below.

$k(-1)$ $k(0)$ $k(1)$ $k(2)$ $k(3)$

b. [2 points] Circle the least value that is listed below.

$k''(-2)$ $k''(-1)$ $k''(0)$ $k''(1)$ $k''(2)$

c. [2 points] Circle all points listed below that are inflection points of $k(x)$.

$x = \frac{1}{2}$ $x = 2$ $x = 3$ $x = 6$ $x = 9$ NONE OF THESE

d. [1 point] On which of the following intervals does $k'(x)$ satisfy the hypotheses of the Mean Value Theorem? Circle all correct answers.

$[-1, 3]$ $[3, 5]$ $[6, 8]$ $[8, 9]$ $[8, 10]$ NONE OF THESE

e. [1 point] On which of the following intervals does $k(x)$ satisfy the hypotheses of the Mean Value Theorem? Circle all correct answers.

$[-1, 3]$ $[3, 5]$ $[6, 8]$ $[8, 9]$ $[8, 10]$ NONE OF THESE