**1.*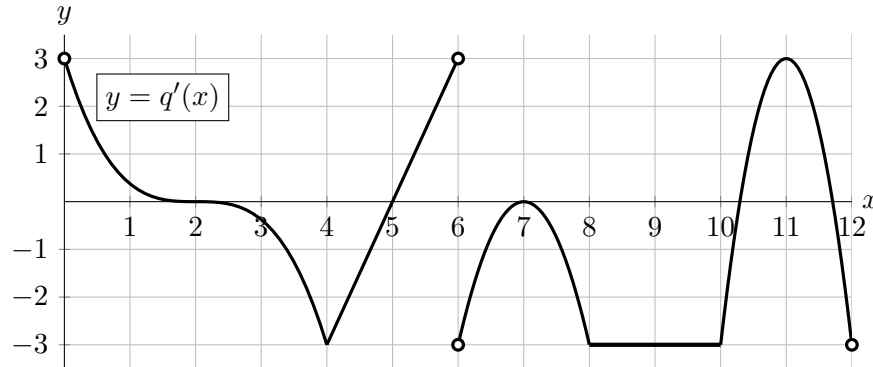* [12 points] The function $q(x)$ is continuous on $[0, 12]$. The graph of $q'(x)$ (the derivative of q) is given below.

a. [2 points] On which of the following interval(s) is $q(x)$ decreasing? Circle all correct choices.

(0,2)   (6,7)   (7,8)   NONE OF THESE

b. [2 points] On which of the following interval(s) is $q(x)$ concave down? Circle all correct choices.

(0,2)   (2,4)   (6,7)   NONE OF THESE

c. [2 points] Which of the following are critical point(s) of $q'(x)$? Circle all correct choices.

$x = 2$ $x = 5$ $x = 9$ NONE OF THESE

d. [2 points] Which of the following are critical point(s) of $q(x)$? Circle all correct choices.

$x = 5$ $x = 6$ $x = 11$ NONE OF THESE

e. [2 points] At which of the following value(s) of x does $q(x)$ have a local maximum? Circle all correct choices.

$x = 6$ $x = 7$ $x = 11$ NONE OF THESE

f. [2 points] At which of the following value(s) of x does $q(x)$ have an inflection point? Circle all correct choices.

$x = 2$ $x = 4$ $x = 7$ NONE OF THESE