The graph of the function $m(x)$ is shown to the right. Note that:

- $m(x)$ is linear on $(-3, -1]$ and on $(-1, 3]$,
- $m(x)$ is quadratic on $[3, 5]$, and
- there is a corner at $x = 3$.

For parts a.–d., find the exact values, or write DNE if the value does not exist. Your answers should not include the letter $m$ but you do not need to simplify.

a. [1 point] Find $m''(1)$.

Answer: $m''(1) = \underline{\phantom{0}}$

b. [2 points] Let $A(x) = \frac{m(x)}{x}$. Find $A'(-2)$.

Answer: $A'(-2) = \underline{\phantom{0}}$

c. [2 points] Let $B(x) = m(x) \ln(3x)$. Find $B'(1)$.

Answer: $B'(1) = \underline{\phantom{0}}$

d. [2 points] Let $C(x) = m^{-1}(x)$. Find $C'(1)$.

Answer: $C'(1) = \underline{\phantom{0}}$

e. [2 points] On which of the following intervals does $m(x)$ satisfy the hypotheses of the Mean Value Theorem? Circle all correct answers.

- $[-1, 2]$
- $[0, 5]$
- $[3, 5]$
- NONE OF THESE