10. [11 points] Let \( w(t) \) be the amount of water, in cubic meters (m\(^3\)), in a small pond \( t \) hours after noon on a certain summer day. The function \( w'(t) \), the derivative of \( w(t) \), is graphed below.

\[ y = w'(t) \]

\( t \)

1 2 3 4 5 6 7 8 9 10 11 12

a. [3 points] At 10 PM, is the amount of water increasing or decreasing? Circle your answer below. At what rate? Include units.

Answer: INCREASING DECREASING at a rate of: ________________________

b. [2 points] Over which of the following intervals of \( t \), if any, is the amount of water in the pond constant? Circle all correct answers.

\[ [0, 1] \quad [1, 3] \quad [11, 12] \quad \text{NONE OF THESE} \]

c. [2 points] Over which of the following intervals of \( t \), if any, is the amount of water in the pond decreasing at a constant rate? Circle all correct answers.

\[ [0, 1] \quad [1, 3] \quad [11, 12] \quad \text{NONE OF THESE} \]

d. [2 points] At which of the following times \( t \) is the amount of water in the pond increasing the fastest? Circle the one correct answer.

\[ t = 4 \quad t = 6.3 \quad t = 7 \quad t = 10 \]

e. [2 points] At which of the following times \( t \) does the pond contain the least amount of water? Circle the one correct answer.

\[ t = 0 \quad t = 4 \quad t = 6 \quad t = 12 \]