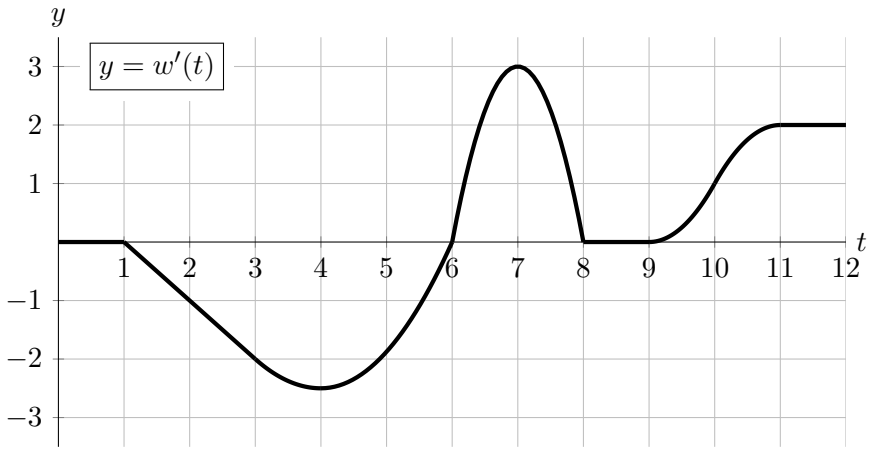
10. [11 points] Let $w(t)$ be the amount of water, in cubic meters (m^3), in a small pond t hours after noon on a certain summer day. The function $w'(t)$, the **derivative** of $w(t)$, is graphed below.



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: 1 m^3/hr

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.

[$[0, 1]$] $[1, 3]$ $[11, 12]$ 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.

$[0, 1]$ $[1, 3]$ $[11, 12]$ [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.

$t = 4$ $t = 6.3$ [$t = 7$] $t = 10$

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

$t = 0$ $t = 4$ [$t = 6$] $t = 12$