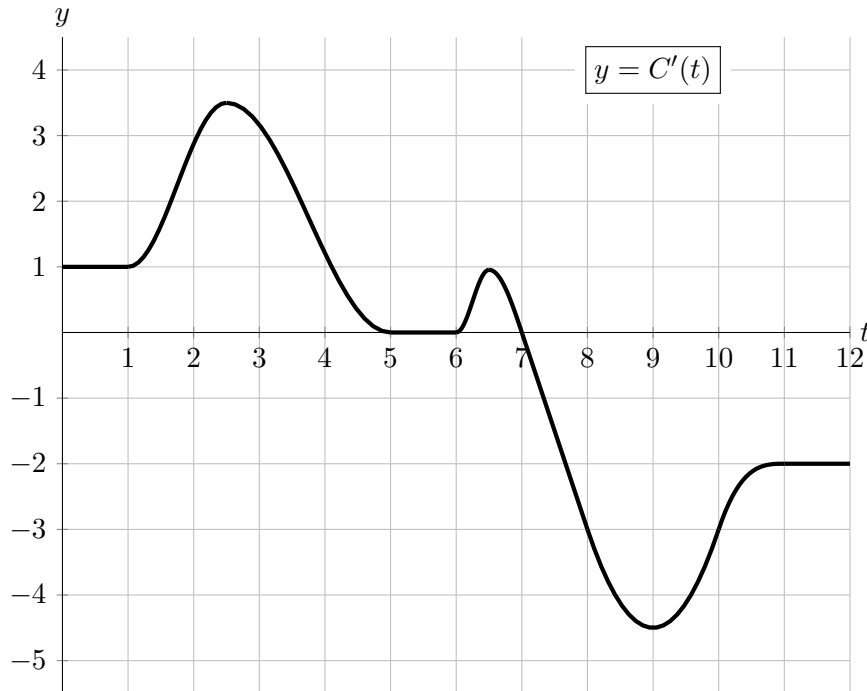


8. [6 points] Let  $C(t)$  be the temperature, in degrees Fahrenheit ( $^{\circ}\text{F}$ ), of a cat café  $t$  hours after noon on a certain winter day. The function  $C'(t)$ , the **derivative** of  $C(t)$ , is graphed below.



- a. [2 points] Over which of the following intervals of  $t$ , if any, is the temperature of the cat café constant? Circle **all** correct answers.

$[0, 1]$

$[5, 6]$

$[7, 8]$

$[11, 12]$

NONE OF THESE

- b. [2 points] Over which of the following intervals of  $t$ , if any, is the temperature of the cat café decreasing? Circle **all** correct answers.

$[2, 3]$

$[3, 4]$

$[8, 9]$

$[9, 10]$

NONE OF THESE

- c. [1 point] At which of the following times  $t$  is the temperature in the cat café changing most rapidly? Circle the **one** correct answer.

$t = 1.5$

$t = 2.5$

$t = 8$

$t = 9$

- d. [1 point] At which of the following times  $t$  is the temperature in the cat café the highest? Circle the **one** correct answer.

$t = 0$

$t = 2.5$

$t = 7$

$t = 12$