2. [14 points] Let $C(t)$ be the temperature, in degrees Fahrenheit, of a warm can of soda t minutes after it was put in a refrigerator. Suppose $C(10) = 62$.

a. [3 points] Assuming C is invertible, give a practical interpretation of the statement $C^{-1}(45) = 40$.

b. [3 points] Give a practical interpretation of the statement $C'(10) = -0.4$.

c. [3 points] Give a practical interpretation of the statement $\displaystyle\int_0^{10} C'(t)\,dt = -5$.

d. [2 points] Assuming the statements in parts (a)-(c) are true, determine $C(0)$.

e. [3 points] What is the practical meaning of $\displaystyle\int_0^1 C(t)\,dt$?