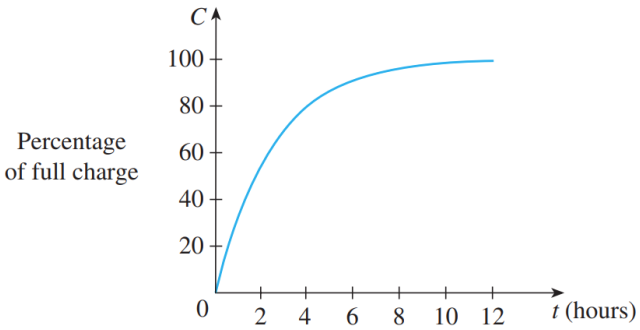
Exercise 13

A rechargeable battery is plugged into a charger. The graph shows $C(t)$, the percentage of full capacity that the battery reaches as a function of time t elapsed (in hours).

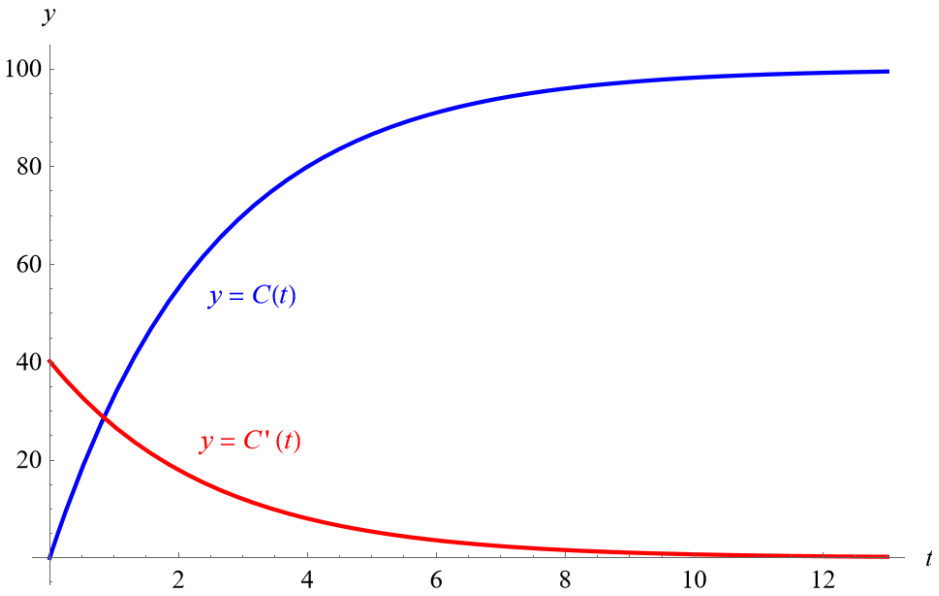
(a) What is the meaning of the derivative $C'(t)$?

(b) Sketch the graph of $C'(t)$. What does the graph tell you?



Solution

The value of C' is the slope of the tangent line to C at each value of t.



C' tells us how fast the battery is charging per hour at any time t.