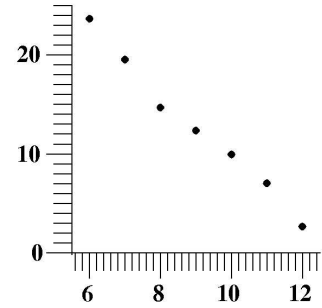


Problem statement Below is the U.S. inflation rate for the months of June through December in the year 1920. This rate is “an annualized percentage rate of change of the U.S. consumer price index (CPI) as measured by price changes for the month cited.”

June	July	August	September	October	November	December
23.67%	19.54%	14.69%	12.36%	9.94%	7.03%	2.65%

The data points given are displayed on the graph to the right. Suppose $C(t)$ is the U.S. CPI for the months listed, and t represents the month of the year (so $t = 6$ represents June). Use the numbers to answer the following questions as well as you can.



- What is the sign of $C'(t)$ for t in the interval $[6, 12]$?
- What is the sign of $C''(t)$ for t in the interval $[6, 12]$?
- Describe in one or more English sentences what is happening to the CPI in the interval $[6, 12]$ as completely as possible. (Your description could begin, “Princes are . . .” but include all relevant qualitative information in your description.)
- Sketch a qualitatively correct graph of the function $C(t)$ in the interval $[6, 12]$.