Math152 – Spring 2016 – In-class Group Assignment 7

The textbook discusses the amount of the myelin in a mouse brain as the mouse ages. Data on the mg of myelin per brain was estimated from data as

$$M(t) = 23.8\ln(t) - 57$$

Where t is the mouse's age in days. Using this equation, estimate the derivative $M'(t)$ numerically by finding the slope of the secant line to the graph at ages 20, 40 and 60 days where the secant line has slope

$$s = \frac{M(t+1) - M(t-1)}{2}$$

in which you are using for t the ages 20, 40 and 60.

Make a Table that gives s and st and from this compare your results for the three ages to check whether indeed you can approximate the derivative by c/t and state what the constant c is from your estimations.