7. [14 points] The rate at which a coal plant releases CO$_2$ into the atmosphere $t$ days after 12:00 am on Jan 1, 2010 is given by the function $E(t)$ measured in tons per day. Suppose \[ \int_0^{31} E(t)dt = 223. \]

a. [4 points] Give a practical interpretation of \[ \int_{31}^{59} E(t)dt. \]


c. [2 points] The plant is upgrading to “clean coal” technology which will cause its July 2010 CO$_2$ emissions to be one fourth of its January 2010 CO$_2$ emissions. How much CO$_2$ will the coal plant release into the atmosphere in July?

d. [4 points] Using a left-hand sum with four subdivisions, write an expression which approximates \[ \int_{31}^{59} E(t)dt. \]