

Written Homework Problems §5.4

8 problems for 16 points

§5.4 #207,209,211,223,227,(optional: 231),241

Problem A: Suppose that a volcano is eruption and readings of the rate $r(t)$ at which solid materials are spewed in the atmosphere are given in the table. The time t is measured in seconds and the units for $r(t)$ are tonnes (metric tons) per second.

t	0	1	2	3	4	5	6
$r(t)$	2	10	12	20	25	35	60

Give upper and lower estimates for the total quantity of erupted material after 6 seconds.

Problem B: The marginal cost of manufacturing x yards of a decorative fabric is $C'(x) = 3 - 0.02x + 0.00006x^2$ where C' is measured in dollars per yard. Find the net increase in cost if the production level is raised from 1000 yards to 2000 yards.