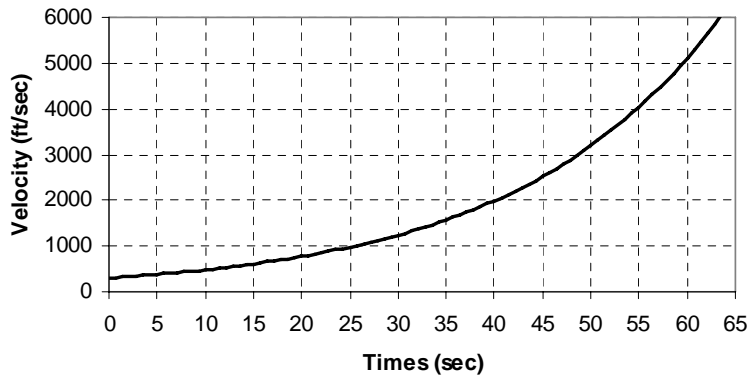


1. If an object travels at a constant velocity V_C (ft/sec) over an interval of time $t_1 \leq t \leq t_2$ (sec), find a formula for how far it will travel.

2. A graph of the velocity of a rocket is given below:

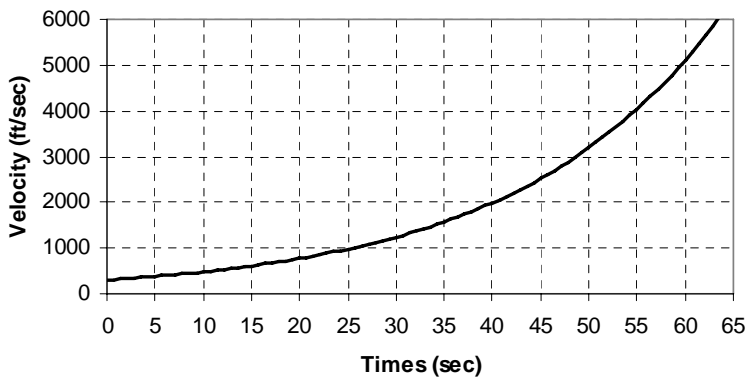


A. Use the graph to complete this table of values.

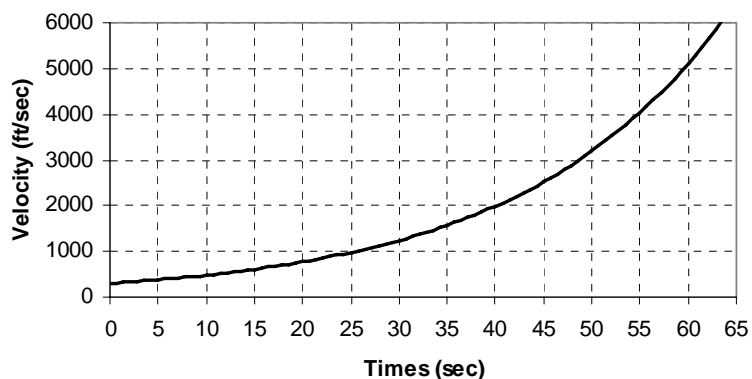
Time	10	20	30	40	50	60
Velocity						

B. Find an upper bound and lower bound for the distance the rocket travels between 30 and 40 seconds.

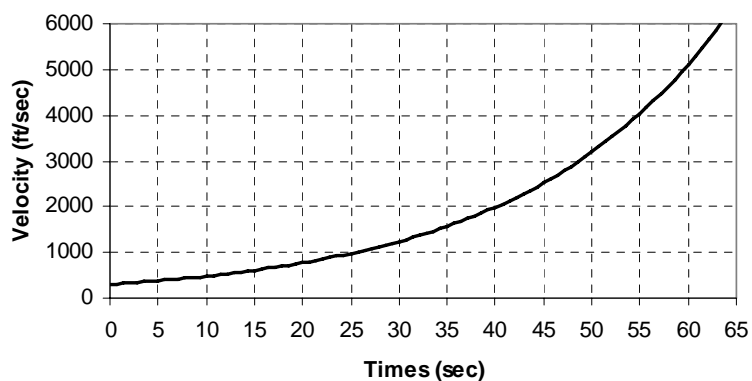
C. Using 10 second increments, find an upper bound for the total distance the rocket travels between 10 and 60 seconds. Include an illustration of this quantity on the graph below.



D. Using 10 second increments, find a lower bound for the total distance the rocket travels between 10 and 60 seconds. Include an illustration of this quantity on the graph below



E. Give an illustration of the difference between the two bounds found in parts C and D. Write a formula for the relationship between the two bounds, the velocity function, and the time interval.



F. How often would measurements of velocity need to be taken so that the difference between the upper and lower bounds is 1200 feet? How many measurements would need to be taken?

G. Write expressions in sigma notation for the upper and lower bounds.