

ChE 400 Applied Chemical Engineering Calculations

Numerical Differentiation and Integration: Proposed Problems

1. Determine the distance traveled from the following velocity data:

t (s)	1	2	3.25	4.5	6	7	8	8.5	9.3	10
v (m/s)	5	6	5.5	7	8.5	6	6	7	7	5

At $t=0$ the car is not moving.

2. Use the following data to find the velocity and acceleration at $t= 5$ s:

t (s)	0	1	2	3	4	5	6	7	8
Position, x (m)	0	0.7	1.8	3.4	5.1	6.5	7.3	8	8.4