

MA205 - Integral Calculus
Lesson 2: Estimations From Data
Class Problems

1. Lance Armstrong is riding his bike and has to slam on the brakes because of an obstacle in the road. He skids for about 8 seconds, and the following table gives his velocity at 2 second intervals.

Time (s)	0	2	4	6	8
Velocity (ft/s)	55	45	30	22	15

Plot this data Mathematica. Estimate how far Lance's skid was. Provide an upper estimate and a lower estimate. What can you do with these estimates to get a better one?

2. Below is a table giving the birth rates in the United States every five years, from 1915 to 1950. Using the right endpoints as sample points, provide an estimate for the total number of births in the United States over this 35 year period. Is this an over-estimate or an under-estimate?

Year	1915	1920	1925	1930	1935	1940	1945	1950
Birth Rate (millions of people/year)	2.97	2.95	2.91	2.62	2.38	2.56	2.86	3.63

3. Work Problem Solving Problem #3 in your student guide.