

Instructions: Work together in pairs on the following problems.

1. Suppose you are given the following data measuring the speed of a car traveling around a test track.

time (in seconds)	Speed (in feet per second)
0	124
6	134
12	148
18	156
24	147
30	133
36	121
42	109
48	99
54	85
60	78

- (a) Use Composite Simpson's rule to approximate the total distance traveled by the car.

- (b) What, if anything, can you say about the accuracy of your approximation?

2. Let $f(x) = x^2 \cos x$. Find the number of sub-intervals necessary in order to approximate $\int_0^\pi f(x) dx$ to within an accuracy of 10^{-4} using Composite Simpson's Rule (you may use the back of this handout if necessary).