

# Lecture 1

January 14, 2015

Either draw by hand or use Minitab to sketch problems 1.2.11, 1.2.12, 1.2.13, 1.2.19. Also, try the problem(s) below.

1. This problem checks your understanding on the  $\sum$  notation. We consider the list of numbers

1, 3, 5, 7, 9

(a) Find  $\sum_{i=1}^n x_i$  and  $\sum_{i=1}^n x_i^2$ .

(b) Find

$$\bar{x} = \frac{\sum_{i=1}^n x_i}{n}.$$

(c) Find

$$\sum_{i=1}^n \bar{x}.$$

(d) Using the fact that

$$\sum_{i=1}^n (x_i - \bar{x}) = \sum_{i=1}^n x_i - \sum_{i=1}^n \bar{x}$$

to explain why the summation above is always 0 for ANY list of numbers.