

# Short Problem Set 1

Due at the beginning of our next class. Complete all calculations by hand, showing the calculation itself in detail, and draw all figures by hand. You may use a calculator to do any necessary adding, subtracting, multiplying, or dividing, and, if you wish, you may choose to check your results by using your calculator's built in functions. Be prepared to share your work in class.

**Problem 1.** Listed below are the number of yellow M&Ms found in seven 1.69-oz bags of plain M&Ms:

23 15 16 16 18 7 17

Report the mean, the median, the variance, the standard deviation, the interquartile range, and the median absolute deviation for these seven results.

**Problem 2.** A larger set of results for 30 1.69-oz bags of M&Ms gives the following number of yellow M&Ms:

23 15 16 16 18 7 17 8 16 17 13 23 13 10 8  
15 13 14 18 22 15 5 12 16 16 14 19 14 14 8

for which the summary statistics are as follows:

mean: 14.5  
median: 15  
variance: 19.9  
standard deviation: 4.46  
 $F_U$ : 17  
 $F_L$ : 13  
IQR: 4  
MAD: 2

Construct a histogram and a boxplot for the yellow M&Ms in these 30 samples. For the histogram use the following bins with right endpoints: 5–10, 10–15, 15–20, and 20–25. In two to three sentences, what do your two plots suggest to you about the distribution of the data?