

Problem Set

1. A class of 30 seventh graders wanted to estimate the proportion of middle school students who played a musical instrument. Each seventh grader took a random sample of 25 middle school students and asked each student whether or not she played a musical instrument. The following are the sample proportions the seventh graders found in 30 samples.

0.80	0.64	0.72	0.60	0.60	0.72	0.76	0.68	0.72	0.68
0.72	0.68	0.68	0.76	0.84	0.60	0.80	0.72	0.76	0.80
0.76	0.60	0.80	0.84	0.68	0.68	0.70	0.68	0.64	0.72

- The first student reported a sample proportion of 0.80. What does this value mean in terms of this scenario?
 - Construct a dot plot of the 30 sample proportions.
 - Describe the shape of the distribution.
 - Describe the variability of the distribution.
 - Using the 30 class sample proportions listed above, what is your estimate for the proportion of all middle school students who played a musical instrument?
2. Select another variable or column from the data file that is of interest. Take a random sample of 30 students from the list, and record the response to your variable of interest of each of the 30 students.
- Based on your random sample, what is your estimate for the proportion of all middle school students?
 - If you selected a second random sample of 30, would you get the same sample proportion for the second random sample that you got for the first random sample? Explain why or why not.