**How many points will MSU average in the tournament?**



During the regular season, the MSU men’s basketball team scored an average of 80 points per game. Do you think they will be able continue this average throughout the NCAA March Madness Tournament (6 games if they win)? Mrs. Gallas predicts that they will score less than their average since they will face stronger opponents than in the regular season.

In order to predict how MSU will score in the tournament, below is a random sample of 6 games from this season in which MSU played a top 25 team: **77 82 69 81 64 66**

The sample has a mean of 73.167 and a standard deviation of 7.834. Use this data to conduct a significance test at a 5% significance level.

Population: Parameter:

Sample: Statistic:

1. Write the hypotheses. \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_
2. Verify that the random and normal conditions have been met. (Lesson 6.5)
3. Find the mean and standard deviation of the sampling distribution of . (Lesson 6.5)
4. Draw a picture and then calculate the test statistic.
5. Remember, since we are working with means, the test statistic is a *t* value. Use table B to find the P-value.
6. What conclusion can we make?

**Who needs an aspirin?**

The makers of Aspaway brand aspirin want to be sure that their tablets contain the right amount of active ingredient (acetylsalicylic acid). So they inspect a random sample of 30 tablets from a batch in production. When the production process is working properly, Aspaway tablets have an average of *μ* = 320 milligrams (mg) of active ingredient. The amount of active ingredient in the 30 selected tablets has mean 319 mg and standard deviation 3 mg. We want to perform a test at the α = 0.05 significance level.