1. I jokingly claim that when I moved from Pennsylvania to California, the average IQ dropped in both states. Is this really possible (in principle, anyway)? If so, under what circumstances will this occur?

2. Suppose that the average amount of sleep obtained by Cal Poly undergraduates last night was 6.8 hours, and the average amount of sleep obtained by Cal Poly graduate students last night was 7.6 hours. Is it reasonable to conclude that the average amount of sleep obtained last night among all Cal Poly students was \((6.8 + 7.6)/2 = 7.2\) hours? Explain.

3. Create a hypothetical example of 10 exam scores (on a 100-point exam) with the property that the median is at least 20 points larger than the mean. Provide the ten exam scores, and also report the mean and median.

For questions 4 and 5, suppose that an instructor teaches 5 classes with the following number of students in the classes:

- Class #1: 10 students
- Class #2: 10 students
- Class #3: 10 students
- Class #4: 10 students
- Class #5: 60 students

4. Determine the average (mean) number of students per class.

5. Now suppose that each of these 100 students reports the number of students in his/her class. Determine the average (mean) of these 100 responses.