1. Each of the three measures of central tendency—the mean, the median, and the mode—are more appropriate for certain populations than others.

Search the Cybrary and/or Internet. For each type of measure, give two examples of populations where it would be the most appropriate indication of central tendency.

2. Find the mean, median, and mode of the following data set:

5 15 9 22 67 42 2 72 81 53 6 70 41 9 42 23

3. Sometimes, we can take a *weighted* approach to calculating the mean. Take our example of high temperatures in July. Suppose it was 98°F on 7 days, 96°F on 14 days, 88°F on 1 day, 100°F on 6 days and 102°F on 3 days. Rather than adding up 31 numbers, we can find the mean by doing the following:

Mean = ( 1 x 88 + 14 x 96 + 7 x 98 + 6 x 100 + 3 x 102) / 31

…where 1, 14, 7, 6, and 3 are the weights or frequency of a particular temperature’s occurrence. Then we divide by the total of number of occurrences.

Suppose we are tracking the number of home runs hit by the Boston Red Sox during the month of August:

|  |  |
| --- | --- |
| **Number of Games** | **HRs Hit each Day** |
| 2 | 3 |
| 5 | 2 |
| 6 | 1 |
| 7 | 0 |

Using the weighted approach, calculate the average number of home runs per game hit by the Sox.

4. When a pair of dice is rolled, the total will range from 2 (1,1) to 12 (6,6). It is a fact that some numbers will occur more frequently than others as the dice are rolled over and over.

1. Why will some numbers come up more frequently than others?
2. Each die has six sides numbered from 1 to 6. How many possible ways can a number be rolled? In other words, we can roll (2,3) or (3,2) or (6,1) and so on. What are the total (x,y) outcomes that can occur?
3. How might you then estimate the percentage of the time a particular number will come up if the dice are rolled over and over?
4. Once these percentages have been calculated, how might the mean value of the all the numbers thrown be determined?
5. If you have completed the Discussion Board assignment, you have an idea of what a population distribution is. There is a very famous distribution that describes the frequency of the number of times a number comes up in a series of dice rolls. Use the Library or the Internet to see if you can find its name.