Example Question:

6. The following data are from an ordinal triage scale where 0 is no care and 25 is immediate care. Thoroughly describe that data.
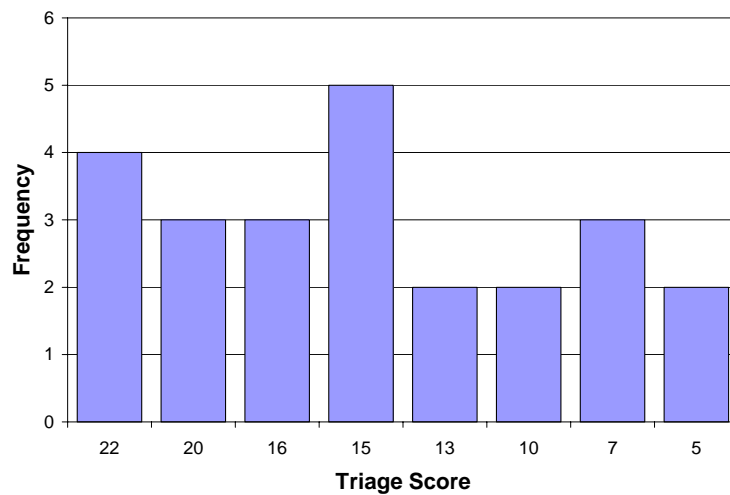
15	20	10	7	7
5	22	13	7	20
16	22	22	20	16
22	16	15	10	15
15	15	5	13	

Example Answer:

N = 24

Value	Freq	Relative Freq	Cum. Freq	Percentile
22	4	.1667	24	100.00
20	3	.1250	20	83.33
16	3	.1250	17	70.83
15	5	.2083	14	58.33
13	2	.0833	9	37.50
10	2	.0833	7	29.17
7	3	.1250	5	20.83
5	2	.0833	2	8.33

The mode for this data is 15 and the median is also 15.

Example Explanation:

- First, just count how many numbers you have in total. In this case, we have 24 numbers, so N = 24.
- Next, set up a table with five columns: Value, Freq., Relative Freq., Cum. Freq., and Percentile.
- Under the **Value** column, we list every value that we find in our data set. This time the data are ordinal so we list the values from highest to lowest. However, since the data are not interval or ratio, we do not need to list values that would be possible but do not occur in our data set.
- Under the **Freq** column, we put how many each value showed up in our data set. For example, there are four 22s in our data set.
- Under the **Relative Freq** column just divide the frequency by N. Round to four decimal places (four digits following the decimal point). Do not put a zero before the decimal point.
- For the **Cum. Freq.** column, we report how many cases have that value or a lesser value. For example, the cumulative frequency for ten is 7 as we have 2 tens, 3 sevens, and 2 fives.
- The **Percentile** is just 100 times (the cumulative frequency divided by N). For example, the percentile for ten is $100 \times (7/24) = 29.17$. Note that we have two digits following the decimal place (percentiles already count as two decimal places). As a short cut, we could have just divided by .24 as $7/.24 = 29.17$.
- The mode is just the value that has the highest frequency. In this case, 15 has the highest frequency as there are 5 of them.
- The median is the value that has the 50th percentile. One way to find this is to think about the percentiles as money. Which is the poorest value that could loan you $50? Not 13 because it only has $37.50, so it can't loan you the $50. The poorest value that has at least $50 to loan is 15 as it has $58.33. Or you could ungroup them and put them in order and find the middle value

1	2	3	4	5	6	7	8	9	10	11			11	10	9	8	7	6	5	4	3	2	1
5	5	7	7	7	10	10	13	13	15	15	15	15	15	16	16	16	20	20	20	22	22	22	22

- For graphing, we could do either a bar chart or a pie chart. In this case, we eight categories which is arguably too many for a pie chart. You should just do this by hand; we will learn how to graph using a computer later in the course.