Pareto Charts:

A Pareto Chart is a histogram for nominal data sets. The problem with nominal data being used as categories along the x axis is that there is no specific way to order it. In order to make sure everyone gets the same chart for the same data, we choose to order it by the frequency of each data item going from greatest to least.

1. Create a Pareto chart for the following distribution:

Animal	Frequency
Kangaroo	4
Giraffe	3
Monkey	15
Lion	6
Tiger	1
Bear	12

1.5 – Measures of Central Tendency

A Measure of Central Tendency is a value that represents the middle, or a typical data item within a data set. There are many different types of measures of central tendency, here are the most widely used ones.

Mean: (Arithmetic)

o   An arithmetic mean   — °   °   ng

(Ex) Consider a lottery that boasts an 'average winnings of $1000. This could be interpreted as:

A) 5 players: $1000, $1000, $1000, $1000, $1000

B) 5 players: $0, $0, $0, $0, $5000

Median:

The median is defined as the middle data entry in a sorted data set, or the average of the middle two when there is an even number of values.

The median is completely protected by outliers and is considered the best measure of central tendency when the data contains outliers or is skewed.

You can tell if a data set is symmetric or skewed by comparing the values of the mean and the median:

1. Mean = Median   -->   Symmetric
2. Mean > Median   -->   Skewed Right
3. Mean < Median   -->   Skewed Left

Mode:

The mode is defined as the most commonly occurring data item in a data set and is the only measure of central tendency that works for qualitative data

Note that a data set may have no mode, one mode, or many modes. A data set with two modes is called bimodal.

For each _____, calculate the mean x̄, median, and mode. If necessary, round all decimals to two decimal places:

1. **Ages (in years) of McDonald's employees:**

    18   17   16   18   24   16   21   19   16

    x̄ = _____   median = _____   mode = _____

2. **Daily high temperature (in degrees F) in Mt. Snow, VT during the first ten days of August:**

    62   67   70   65   71   65   67   65   67   70

    x̄ = _____   median = _____   mode = _____

3. **Grades on a Physics 221 test:**

    78   82   22   89   85   71   67   73   86   75   76   90

    x̄ = _____   median = _____   mode = _____

For this population, find the mean,   , the median, and the mode:

4. **Weights of sixth graders in a small class (in lbs):**

    132   115   125   99   127   115   140   112

    __ = _____   median = _____   mode = _____

5. **Find the mean, median and mode of the following frequency distribution:**

Weighted Mean:

If you have a data set with a lot of repeated values, you can use multiplication to speed up the

3 The ages of people attending a wedding are summarized in the following frequency table.

Age Range	Midpoint	Number of People
8 – 26		15
27 – 45		23
46 – 64		19
65 – 83		6

Weighted Mean Applications:

1. What is the average daily balance for a c ac a f daily.   Ma a ne   Ë   Ë   h   q