Mean:

The mean is average of the values in the array.

1. Total the array of numbers
2. Divide by the length.

You cannot produce a mean from an empty array.

Median:

The median is the "middle value" of a sorted array, you must first sort your array from lowest value to highest. The calculation for a median is different for an array of even length versus an array of an odd length.

An array with an odd length:

1. Find the index of the middle element of the array.
2. Compute middle index with length divided by 2.
3. The median would be the value at this array index.

An array with an even length:

1. There will be the two middle values.
2. Compute index #1 with array length divided by 2.
3. Compute index #2 with index #1 - 1
4. Get the values stored at index #1 and index #2
5. The median is the two values added together and divided by 2. (recall we are doing int arithmetic)

Midpoint:

The midpoint is the mean of the smallest and largest values in your array.

1. Sort your array in ascending order
2. Retrieve the values from the beginning and end of the array
3. The midpoint is those two values added together and divided by 2. (recall we are doing int arithmetic)

Standard Deviation:

The standard deviation shows how much variation from the average exists.

1. Compute the mean of the array.
2. Create a new array of deviations by subtracting the mean from each member from the original array.
3. Square each member of the deviations array.
4. Total those squared deviations.
5. Divide by one less than the original array length.
6. The standard deviation is the square root of that number.