

# Frequencies

## Statistics

Score on Quiz

N	Valid	9
	Missing	0
Mean		7.0000
Std. Deviation		1.22474
Variance		1.500
Percentiles	25	6.0000
	50	7.0000
	75	8.0000

“N” provides the sample size for the entire data set. “Missing” refers to the number of entries that are blank, whereas “Valid” is the number of entries that are not blank.

The “Mean”, “Standard Deviation”, and “Variance” are all calculated as unbiased estimates of the population parameter. Thus, the “Variance” and “Std. Deviation” are both calculated using degrees of freedom (N-1) in their denominator.

For the example, the average score was “7” with a standard deviation of 1.5.

## Score on Quiz

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5.00	1	11.1	11.1	11.1
	6.00	2	22.2	22.2	33.3
	7.00	3	33.3	33.3	66.7
	8.00	2	22.2	22.2	88.9
	9.00	1	11.1	11.1	100.0
Total		9	100.0	100.0	

“Percentiles” list the scores associated with particular ranges of scores at the low end of the distribution. In some cases, the score values can be a non-integer.

For the example, 25% of the scores were a “6” or smaller, 50% are a “7” or smaller, and 75% are an “8” or smaller.

The “Valid” column lists all of the actual scores in the entire data set. “Frequency” indicates the number of times that score exists. For example, the score “7” was listed 3 times.

The “Percent” column provides the percentage of cases for each possible score. For example, of the 9 scores in the entire data set, the score of “7” was listed 3 times and 3/9 is 33.3%.

The “Valid Percent” column provides the percentage of cases for each possible score divided by the total number of cases. In this example, there were no missing scores, so the percent columns are equal.

“Cumulative Percent” is the sum of all percentages up to and including the row in question. For example, 11.1% of scores were a “5” or smaller. Similarly, 33.3% were a “6” or smaller. And 100.0% were obviously a “9” or smaller.