

1. Problem

A continuous random variable X was measured 8 times. The sorted data are shown below, along with each datum's index.

i	x
1	52.007
2	54.473
3	57.014
4	57.544
5	58.937
6	60.769
7	61.008
8	111.271

The total of the measurements is 513.023.

- (a) Determine the percentile rank of the value 60.769. In other words, determine what percent of data are less than or equal to 60.769.
- (b) Determine the datum corresponding to a percentile rank of 0.875. In other words, determine x such that 87.5% of the data are less than or equal to x .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.

2. Problem

A continuous random variable X was measured 48 times. The sorted data are shown below.

90.044	90.056	90.061	90.062	90.068	90.076	90.082	90.111
90.140	90.335	90.364	90.456	90.480	90.492	90.504	90.558
90.594	90.666	90.739	90.760	90.775	90.830	90.841	90.858
90.867	90.896	90.938	90.945	90.964	91.044	91.048	91.054
91.067	91.175	91.242	91.264	91.408	91.455	91.459	91.612
91.681	91.767	91.994	92.157	92.736	92.836	93.273	93.276

The total of the measurements is 4368.11.

- (a) Determine the percentile rank of the value 91.455. In other words, determine what percent of data are less than or equal to 91.455.
- (b) Determine the datum corresponding to a percentile rank of 0.333. In other words, determine x such that 33.3% of the data are less than or equal to x .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.