

1. Problem

A continuous random variable X was measured 12 times. The sorted data are shown below, along with each datum's index.

i	x
1	60.565
2	61.014
3	63.274
4	67.169
5	68.009
6	69.210
7	73.074
8	74.949
9	75.001
10	78.462
11	78.492
12	79.721

The total of the measurements is 848.94.

- Determine the percentile rank of the value 74.949. In other words, determine what percent of data are less than or equal to 74.949.
- 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 .
- Determine the mean of the measurements.
- Determine the median of the measurements.

2. Problem

A continuous random variable X was measured 32 times. The sorted data are shown below.

30.028	30.091	30.191	30.343	30.397	30.414	30.438	30.640
30.721	30.928	30.936	30.948	30.998	31.040	31.071	31.164
31.250	31.333	31.398	31.517	31.548	31.679	31.694	31.845
32.275	32.398	32.415	32.652	32.876	33.074	34.101	34.293

The total of the measurements is 1006.696.

- (a) Determine the percentile rank of the value 30.998. In other words, determine what percent of data are less than or equal to 30.998.
- (b) Determine the datum corresponding to a percentile rank of 0.594. In other words, determine x such that 59.4% of the data are less than or equal to x .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.