

1. Problem

A continuous random variable X was measured 11 times. The sorted data are shown below, along with each datum's index.

i	x
1	21.041
2	21.232
3	21.284
4	21.364
5	21.421
6	21.463
7	21.539
8	21.606
9	21.745
10	21.807
11	22.017

The total of the measurements is 236.519.

- Determine the percentile rank of the value 22.017. In other words, determine what percent of data are less than or equal to 22.017.
- Determine the datum corresponding to a percentile rank of 0.364. In other words, determine x such that 36.4% 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 40 times. The sorted data are shown below.

41.086	41.125	41.138	41.139	41.163	41.191	41.199	41.217
41.251	41.263	41.313	41.357	41.374	41.391	41.396	41.412
41.419	41.421	41.456	41.463	41.475	41.487	41.496	41.500
41.505	41.514	41.540	41.544	41.590	41.593	41.608	41.646
41.689	41.691	41.753	41.827	41.850	41.857	41.954	42.039

The total of the measurements is 1658.932.

- (a) Determine the percentile rank of the value 41.753. In other words, determine what percent of data are less than or equal to 41.753.
- (b) Determine the datum corresponding to a percentile rank of 0.3. In other words, determine x such that 30% of the data are less than or equal to x .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.