

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	40.011
2	40.686
3	40.858
4	41.802
5	41.832
6	42.064
7	42.136
8	42.830

The total of the measurements is 332.219.

- Determine the percentile rank of the value 42.136. In other words, determine what percent of data are less than or equal to 42.136.
- Determine the datum corresponding to a percentile rank of 0.125. In other words, determine x such that 12.5% 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 81 times. The sorted data are shown below.

43.129	43.231	43.275	43.688	43.763	43.798	43.889	43.981	44.028
44.030	44.081	44.085	44.113	44.124	44.199	44.211	44.267	44.273
44.274	44.277	44.324	44.326	44.353	44.357	44.386	44.411	44.433
44.437	44.486	44.505	44.556	44.558	44.591	44.616	44.636	44.642
44.642	44.650	44.660	44.696	44.723	44.723	44.734	44.751	44.787
44.788	44.799	44.840	44.841	44.856	44.867	44.878	44.918	44.999
45.016	45.090	45.174	45.205	45.216	45.223	45.225	45.263	45.300
45.346	45.376	45.378	45.398	45.420	45.451	45.481	45.515	45.767
45.861	46.041	46.099	46.122	46.126	46.151	46.211	46.309	46.357

The total of the measurements is 3627.606.

- (a) Determine the percentile rank of the value 44.723. In other words, determine what percent of data are less than or equal to 44.723.
- (b) Determine the datum corresponding to a percentile rank of 0.111. In other words, determine x such that 11.1% of the data are less than or equal to x .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.