

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	40.381
2	40.489
3	40.577
4	40.622
5	41.024
6	41.150
7	42.485
8	42.530
9	42.858
10	42.936
11	44.332
12	44.861

The total of the measurements is 504.245.

- Determine the percentile rank of the value 41.15. In other words, determine what percent of data are less than or equal to 41.15.
- Determine the datum corresponding to a percentile rank of 0.667. In other words, determine x such that 66.7% 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 24 times. The sorted data are shown below.

70.299	70.481	71.095	71.306	71.867	72.034	73.926	74.239
74.250	74.605	76.036	76.938	77.888	78.238	78.409	79.247
81.702	83.980	87.865	90.328	90.661	99.888	104.037	105.122

The total of the measurements is 1934.441.

- (a) Determine the percentile rank of the value 76.036. In other words, determine what percent of data are less than or equal to 76.036.
- (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.