

1. Problem

A continuous random variable X was measured 6 times. The sorted data are shown below, along with each datum's index.

| i | x |
|-----|--------|
| 1 | 91.776 |
| 2 | 91.824 |
| 3 | 92.159 |
| 4 | 92.440 |
| 5 | 92.622 |
| 6 | 92.740 |

The total of the measurements is 553.561.

- (a) Determine the percentile rank of the value 92.74. In other words, determine what percent of data are less than or equal to 92.74.
- (b) Determine the datum corresponding to a percentile rank of 0.833. In other words, determine x such that 83.3% of the data are less than or equal to x .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.

2. Problem

A continuous random variable X was measured 24 times. The sorted data are shown below.

| | | | | | |
|--------|--------|--------|--------|--------|--------|
| 60.079 | 60.233 | 60.667 | 61.365 | 61.512 | 61.638 |
| 62.120 | 62.992 | 65.709 | 66.329 | 66.449 | 66.773 |
| 66.853 | 67.240 | 67.429 | 67.961 | 68.512 | 68.889 |
| 70.881 | 71.724 | 74.282 | 83.107 | 85.764 | 89.717 |

The total of the measurements is 1638.225.

- (a) Determine the percentile rank of the value 74.282. In other words, determine what percent of data are less than or equal to 74.282.
- (b) Determine the datum corresponding to a percentile rank of 0.75. In other words, determine x such that 75% of the data are less than or equal to x .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.