

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	40.002
2	40.130
3	40.547
4	40.813
5	40.960
6	42.070
7	42.253
8	42.460

The total of the measurements is 329.235.

- (a) Determine the percentile rank of the value 42.46. In other words, determine what percent of data are less than or equal to 42.46.
- (b) Determine the datum corresponding to a percentile rank of 0.25. In other words, determine x such that 25% 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 45 times. The sorted data are shown below.

42.436	42.806	43.861	43.885	44.244	44.331	45.014	45.262	45.513
45.789	46.743	46.820	47.060	47.312	47.426	48.134	48.319	48.656
49.039	49.056	49.221	49.367	49.398	49.448	49.824	50.204	50.561
50.829	50.949	51.050	51.219	51.432	51.662	51.732	51.904	51.952
52.084	52.385	53.043	53.119	53.440	53.670	53.946	54.348	55.539

The total of the measurements is 2214.032.

- (a) Determine the percentile rank of the value 53.043. In other words, determine what percent of data are less than or equal to 53.043.
- (b) Determine the datum corresponding to a percentile rank of 0.578. In other words, determine x such that 57.8% of the data are less than or equal to x .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.