

**1. Problem**

A continuous random variable  $X$  was measured 10 times. The sorted data are shown below, along with each datum's index.

$i$	$x$
1	30.209
2	30.220
3	30.548
4	30.960
5	31.451
6	31.458
7	31.670
8	31.674
9	32.298
10	36.652

The total of the measurements is 317.14.

- Determine the percentile rank of the value 30.209. In other words, determine what percent of data are less than or equal to 30.209.
- Determine the datum corresponding to a percentile rank of 0.8. In other words, determine  $x$  such that 80% 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 32 times. The sorted data are shown below.

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10.002	10.009	10.075	10.168	10.188	10.258	10.262	10.284
10.392	10.454	10.754	10.847	11.094	11.138	11.418	12.176
12.361	12.658	13.011	13.045	13.502	13.559	13.964	14.138
14.302	14.674	14.826	14.830	14.854	14.928	14.933	14.950

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The total of the measurements is 394.054.

- (a) Determine the percentile rank of the value 14.83. In other words, determine what percent of data are less than or equal to 14.83.
- (b) Determine the datum corresponding to a percentile rank of 0.344. In other words, determine  $x$  such that 34.4% of the data are less than or equal to  $x$ .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.