

**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	40.902
2	51.683
3	67.358
4	74.857
5	76.290
6	79.444

The total of the measurements is 390.534.

- (a) Determine the percentile rank of the value 76.29. In other words, determine what percent of data are less than or equal to 76.29.
- (b) Determine the datum corresponding to a percentile rank of 1. In other words, determine  $x$  such that 100% 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 56 times. The sorted data are shown below.

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40.948	41.069	41.387	41.437	41.458	41.496	41.528	41.565
41.735	41.876	42.047	42.593	42.789	42.867	43.114	43.135
43.277	43.467	43.576	43.693	43.727	43.735	43.754	43.789
43.849	43.883	43.885	43.916	43.927	43.979	44.062	44.077
44.082	44.098	44.227	44.237	44.243	44.262	44.273	44.337
44.471	44.487	44.574	44.579	44.594	44.608	44.634	44.636
44.738	44.760	44.776	44.777	44.892	44.911	44.937	44.946

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The total of the measurements is 2440.719.

- (a) Determine the percentile rank of the value 44.077. In other words, determine what percent of data are less than or equal to 44.077.
- (b) Determine the datum corresponding to a percentile rank of 0.804. In other words, determine  $x$  such that 80.4% of the data are less than or equal to  $x$ .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.