

**1. Problem**

A continuous random variable  $X$  was measured 7 times. The sorted data are shown below, along with each datum's index.

$i$	$x$
1	50.054
2	50.345
3	50.346
4	50.518
5	50.541
6	50.801
7	51.108

The total of the measurements is 353.713.

- (a) Determine the percentile rank of the value 51.108. In other words, determine what percent of data are less than or equal to 51.108.
- (b) Determine the datum corresponding to a percentile rank of 0.571. In other words, determine  $x$  such that 57.1% 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 54 times. The sorted data are shown below.

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79.797	84.381	85.532	86.464	87.889	92.695	93.270	94.187	94.377
95.673	95.945	96.020	96.359	96.510	96.526	96.581	96.659	96.805
97.142	97.215	97.665	98.024	98.052	99.371	99.554	99.649	100.105
100.704	100.817	101.010	102.582	102.827	103.065	103.351	103.606	104.491
104.930	105.044	105.157	105.591	105.975	106.438	106.541	106.578	107.132
107.361	107.385	107.794	107.936	108.209	108.409	108.430	108.534	109.155

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The total of the measurements is 5401.499.

- (a) Determine the percentile rank of the value 95.673. In other words, determine what percent of data are less than or equal to 95.673.
- (b) Determine the datum corresponding to a percentile rank of 0.722. In other words, determine  $x$  such that 72.2% of the data are less than or equal to  $x$ .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.