

**1. Problem**

A continuous random variable  $X$  was measured 9 times. The sorted data are shown below, along with each datum's index.

$i$	$x$
1	90.060
2	90.209
3	91.282
4	91.889
5	92.348
6	92.475
7	92.576
8	92.647
9	92.971

The total of the measurements is 826.457.

- Determine the percentile rank of the value 90.209. In other words, determine what percent of data are less than or equal to 90.209.
- Determine the datum corresponding to a percentile rank of 0.667. In other words, determine  $x$  such that 66.7% 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 72 times. The sorted data are shown below.

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90.055	90.162	90.318	90.652	90.699	90.767	90.852	90.904	91.261
91.266	91.270	91.375	91.410	91.431	91.487	91.507	91.857	91.922
92.239	92.313	92.364	92.457	92.757	92.835	92.857	92.895	92.994
93.120	93.356	93.414	93.479	93.497	93.558	93.746	93.846	93.887
94.050	94.096	94.139	94.204	94.265	94.272	94.410	94.649	94.788
94.866	94.897	95.034	95.071	95.502	95.775	95.938	96.167	96.699
97.263	97.350	97.685	97.762	98.338	99.236	99.431	99.571	100.367
101.615	102.300	102.864	103.695	103.820	104.059	104.259	105.528	106.014

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The total of the measurements is 6844.788.

- (a) Determine the percentile rank of the value 91.27. In other words, determine what percent of data are less than or equal to 91.27.
- (b) Determine the datum corresponding to a percentile rank of 0.583. In other words, determine  $x$  such that 58.3% of the data are less than or equal to  $x$ .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.