

**1. Problem**

A continuous random variable  $X$  was measured 11 times. The sorted data are shown below, along with each datum's index.

$i$	$x$
1	90.158
2	90.283
3	90.557
4	90.716
5	90.922
6	91.151
7	91.674
8	92.074
9	92.666
10	93.686
11	93.691

The total of the measurements is 1007.578.

- (a) Determine the percentile rank of the value 90.922. In other words, determine what percent of data are less than or equal to 90.922.
- (b) Determine the datum corresponding to a percentile rank of 0.727. In other words, determine  $x$  such that 72.7% 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 24 times. The sorted data are shown below.

96.087	110.416	111.079	111.606	112.398	115.062
115.390	116.032	116.808	116.975	117.021	117.730
118.073	119.807	120.276	120.367	122.955	123.584
123.976	124.691	127.086	128.880	132.341	132.432

The total of the measurements is 2851.072.

- (a) Determine the percentile rank of the value 117.021. In other words, determine what percent of data are less than or equal to 117.021.
- (b) Determine the datum corresponding to a percentile rank of 0.125. In other words, determine  $x$  such that 12.5% of the data are less than or equal to  $x$ .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.