

**1. Problem**

A continuous random variable  $X$  was measured 12 times. The sorted data are shown below, along with each datum's index.

$i$	$x$
1	90.019
2	90.391
3	90.464
4	90.504
5	90.563
6	90.622
7	91.362
8	91.408
9	91.598
10	93.789
11	94.194
12	94.930

The total of the measurements is 1099.844.

- Determine the percentile rank of the value 90.622. In other words, determine what percent of data are less than or equal to 90.622.
- Determine the datum corresponding to a percentile rank of 0.167. In other words, determine  $x$  such that 16.7% 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 12 times. The sorted data are shown below.

20.417	20.561	20.601	20.900
21.105	22.179	23.152	23.364
24.773	26.642	27.260	28.384

The total of the measurements is 279.338.

- (a) Determine the percentile rank of the value 20.601. In other words, determine what percent of data are less than or equal to 20.601.
- (b) Determine the datum corresponding to a percentile rank of 0.75. In other words, determine  $x$  such that 75% of the data are less than or equal to  $x$ .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.