

**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	91.417
2	92.411
3	93.803
4	94.713
5	94.766
6	97.474
7	99.781
8	99.880
9	99.883

The total of the measurements is 864.128.

- Determine the percentile rank of the value 94.713. In other words, determine what percent of data are less than or equal to 94.713.
- Determine the datum corresponding to a percentile rank of 0.889. In other words, determine  $x$  such that 88.9% 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 28 times. The sorted data are shown below.

40.022	40.030	40.058	40.164	40.166	40.220	40.231
40.302	40.343	40.374	40.451	40.477	40.613	40.767
40.882	40.899	40.923	40.923	40.958	41.140	41.151
41.226	41.377	41.615	41.630	41.693	42.040	42.285

The total of the measurements is 1142.96.

- (a) Determine the percentile rank of the value 40.767. In other words, determine what percent of data are less than or equal to 40.767.
- (b) Determine the datum corresponding to a percentile rank of 0.536. In other words, determine  $x$  such that 53.6% of the data are less than or equal to  $x$ .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.