

**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	81.223
2	81.306
3	81.337
4	81.553
5	81.665
6	81.967
7	82.038

The total of the measurements is 571.089.

- Determine the percentile rank of the value 81.306. In other words, determine what percent of data are less than or equal to 81.306.
- Determine the datum corresponding to a percentile rank of 0.857. In other words, determine  $x$  such that 85.7% 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 28 times. The sorted data are shown below.

40.847	42.117	42.890	43.000	43.778	48.849	62.037
65.722	71.536	72.492	82.875	93.773	99.051	104.777
106.750	117.660	118.901	122.271	129.180	133.084	133.485
135.442	135.447	136.076	137.537	138.064	138.524	138.658

The total of the measurements is 2734.823.

- (a) Determine the percentile rank of the value 117.66. In other words, determine what percent of data are less than or equal to 117.66.
- (b) Determine the datum corresponding to a percentile rank of 0.821. In other words, determine  $x$  such that 82.1% of the data are less than or equal to  $x$ .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.