

**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	85.624
2	86.061
3	86.561
4	86.982
5	87.234
6	88.292
7	89.741

The total of the measurements is 610.495.

- Determine the percentile rank of the value 86.061. In other words, determine what percent of data are less than or equal to 86.061.
- Determine the datum corresponding to a percentile rank of 1. In other words, determine  $x$  such that 100% 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 30 times. The sorted data are shown below.

60.018	60.368	61.617	63.668	64.224	65.175
65.244	66.886	67.989	71.044	71.444	71.869
73.758	75.315	75.745	80.630	80.733	82.309
83.870	84.065	84.757	84.771	87.597	91.736
92.350	96.539	97.085	105.795	125.944	147.718

The total of the measurements is 2440.263.

- (a) Determine the percentile rank of the value 92.35. In other words, determine what percent of data are less than or equal to 92.35.
- (b) Determine the datum corresponding to a percentile rank of 0.7. In other words, determine  $x$  such that 70% of the data are less than or equal to  $x$ .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.