

**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	13.279
2	14.324
3	14.507
4	14.915
5	15.304
6	15.450
7	15.612
8	15.951
9	16.240

The total of the measurements is 135.582.

- (a) Determine the percentile rank of the value 14.507. In other words, determine what percent of data are less than or equal to 14.507.
- (b) 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  $x$ .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.

**2. Problem**

A continuous random variable  $X$  was measured 25 times. The sorted data are shown below.

50.536	50.559	50.773	51.439	52.026
52.181	52.445	52.515	53.387	54.933
56.037	56.976	57.891	57.989	58.322
58.730	59.109	59.175	60.956	65.156
69.002	69.474	69.945	70.831	72.521

The total of the measurements is 1462.908.

- (a) Determine the percentile rank of the value 60.956. In other words, determine what percent of data are less than or equal to 60.956.
- (b) Determine the datum corresponding to a percentile rank of 0.04. In other words, determine  $x$  such that 4% of the data are less than or equal to  $x$ .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.