

**1. Problem**

A continuous random variable  $X$  was measured 10 times. The sorted data are shown below, along with each datum's index.

$i$	$x$
1	57.407
2	57.512
3	58.406
4	58.557
5	59.222
6	59.858
7	60.065
8	60.146
9	60.316
10	61.457

The total of the measurements is 592.946.

- Determine the percentile rank of the value 60.065. In other words, determine what percent of data are less than or equal to 60.065.
- Determine the datum corresponding to a percentile rank of 0.4. In other words, determine  $x$  such that 40% 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 48 times. The sorted data are shown below.

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11.166	11.190	11.223	11.227	11.231	11.231	11.238	11.263
11.265	11.266	11.274	11.280	11.305	11.306	11.310	11.317
11.320	11.337	11.341	11.347	11.365	11.374	11.379	11.386
11.392	11.444	11.457	11.462	11.515	11.520	11.536	11.553
11.566	11.600	11.614	11.635	11.663	11.665	11.733	11.752
11.761	11.773	11.791	11.818	11.925	11.967	11.975	12.038

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The total of the measurements is 551.096.

- (a) Determine the percentile rank of the value 11.265. In other words, determine what percent of data are less than or equal to 11.265.
- (b) Determine the datum corresponding to a percentile rank of 0.646. In other words, determine  $x$  such that 64.6% of the data are less than or equal to  $x$ .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.