

**1. Problem**

A continuous random variable  $X$  was measured 11 times. The sorted data are shown below, along with each datum's index.

$i$	$x$
1	70.055
2	70.086
3	70.293
4	70.624
5	70.695
6	70.956
7	71.697
8	71.781
9	72.293
10	72.956
11	72.962

The total of the measurements is 784.398.

- (a) Determine the percentile rank of the value 71.781. In other words, determine what percent of data are less than or equal to 71.781.
- (b) Determine the datum corresponding to a percentile rank of 0.636. In other words, determine  $x$  such that 63.6% of the data are less than or equal to  $x$ .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.

**2. Problem**

A continuous random variable  $X$  was measured 32 times. The sorted data are shown below.

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20.197	20.347	20.374	20.450	20.484	20.665	20.811	20.811
21.131	21.166	21.289	21.544	21.731	21.876	21.942	21.950
21.956	22.120	22.161	22.211	22.262	22.300	23.889	23.958
24.833	25.136	25.242	25.303	25.530	25.625	26.223	26.267

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The total of the measurements is 721.784.

- (a) Determine the percentile rank of the value 22.3. In other words, determine what percent of data are less than or equal to 22.3.
- (b) Determine the datum corresponding to a percentile rank of 0.0625. In other words, determine  $x$  such that 6.25% of the data are less than or equal to  $x$ .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.