

**1. Problem**

A continuous random variable  $X$  was measured 6 times. The sorted data are shown below, along with each datum's index.

| $i$ | $x$    |
|-----|--------|
| 1   | 20.953 |
| 2   | 21.603 |
| 3   | 21.937 |
| 4   | 22.218 |
| 5   | 22.639 |
| 6   | 22.902 |

The total of the measurements is 132.252.

- (a) Determine the percentile rank of the value 21.937. In other words, determine what percent of data are less than or equal to 21.937.
- (b) Determine the datum corresponding to a percentile rank of 0.167. In other words, determine  $x$  such that 16.7% 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 28 times. The sorted data are shown below.

|        |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|--------|
| 10.072 | 10.170 | 10.782 | 10.993 | 11.757 | 11.935 | 12.663 |
| 12.980 | 13.109 | 13.316 | 13.547 | 13.673 | 14.082 | 14.825 |
| 15.193 | 15.273 | 15.929 | 17.696 | 17.721 | 18.835 | 18.914 |
| 20.076 | 20.735 | 20.744 | 20.861 | 22.097 | 25.004 | 25.413 |

The total of the measurements is 448.395.

- (a) Determine the percentile rank of the value 11.757. In other words, determine what percent of data are less than or equal to 11.757.
- (b) Determine the datum corresponding to a percentile rank of 0.429. In other words, determine  $x$  such that 42.9% of the data are less than or equal to  $x$ .
- (c) Determine the mean of the measurements.
- (d) Determine the median of the measurements.