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 | 40.365 |
| 2 | 40.918 |
| 3 | 45.367 |
| 4 | 45.657 |
| 5 | 46.180 |
| 6 | 46.399 |
| 7 | 46.742 |
| 8 | 47.015 |
| 9 | 47.439 |
| 10 | 47.781 |
| 11 | 47.903 |

   The total of the measurements is 501.766.

   (a) Determine the percentile rank of the value 46.399. In other words, determine what percent of data are less than or equal to 46.399.

   (b) 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 $x$.

   (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.

| | | | | | | |
|---|---|---|---|---|---|---|
| 50.008 | 50.048 | 50.078 | 50.108 | 50.112 | 50.181 | 50.184 |
| 50.288 | 50.467 | 50.574 | 50.602 | 50.828 | 51.351 | 51.833 |
| 51.961 | 52.448 | 52.690 | 52.730 | 52.733 | 52.736 | 52.782 |
| 52.811 | 52.827 | 52.872 | 52.951 | 52.958 | 52.960 | 52.971 |

The total of the measurements is 1445.092.

(a) Determine the percentile rank of the value 51.351. In other words, determine what percent of data are less than or equal to 51.351.

(b) Determine the datum corresponding to a percentile rank of 0.643. In other words, determine $x$ such that 64.3% of the data are less than or equal to $x$.

(c) Determine the mean of the measurements.

(d) Determine the median of the measurements.