1. **Solution**
Let x represent a datum of interest. Let i represent that datum's index. Let ℓ represent that datum's percentile. Let n represent the sample size (number of measurements). In general,

$$\ell = \frac{i}{n}$$

(a) We are given $x = 69.795$. This means $i = 8$. We know $n = 8$. Determine the percentile ℓ.

$$\ell = \frac{8}{8}$$

$$\ell = 1$$

So, the percentile rank is $\boxed{1}$, or 100th percentile.

(b) We are given $\ell = 0.25$. We can use algebra to solve for i.

$$\ell = \frac{i}{n}$$

Multiply both sides by n.

$$n \cdot (\ell) = n \cdot \left(\frac{i}{n}\right)$$

Simplify both sides.

$$n\ell = i$$

To make me happy, switch the sides.

$$i = n\ell$$

Now, we can evaluate i.

$$i = (8)(0.25)$$

$$i = 2$$

Determine the x associated with $i = 2$.

$$x = \boxed{54.699}$$

(c) The mean: $\bar{x} = \frac{502.48}{8} = \boxed{62.81}$

(d) If n is odd, then median is $x_{i=\frac{n+1}{2}}$, the value of x when $i = \frac{n+1}{2}$. Otherwise, if n is even, the median is mean of $x_{i=\frac{n}{2}}$ and $x_{i=\frac{n}{2}+1}$. In this case, $n = 8$ and so n is even.

$$\text{median} = \frac{x_4 + x_5}{2} = \frac{63.148 + 67.5}{2}$$

So, median = $\boxed{65.324}$.

2. **Solution**
Let x represent a datum of interest. Let i represent that datum's index. Let ℓ represent that datum's percentile. Let n represent the sample size (number of measurements). In general,

$$\ell = \frac{i}{n}$$

(a) We are given $x = 38.895$. This means $i = 54$. We know $n = 64$. Determine the percentile ℓ.

$$\ell = \frac{54}{64}$$

$$\ell = 0.844$$

So, the percentile rank is $\boxed{0.844}$, or 84.4th percentile.

(b) We are given $\ell = 0.766$. We can use algebra to solve for i.

$$\ell = \frac{i}{n}$$

Multiply both sides by n.

$$n \cdot (\ell) = n \cdot \left(\frac{i}{n}\right)$$

Simplify both sides.

$$n\ell = i$$

To make me happy, switch the sides.

$$i = n\ell$$

Now, we can evaluate i.

$$i = (64)(0.766)$$

$$i = 49$$

Determine the x associated with $i = 49$.

$$x = \boxed{38.031}$$

(c) The mean: $\bar{x} = \frac{2213.214}{64} = \boxed{34.581}$

(d) If n is odd, then median is $x_{i=\frac{n+1}{2}}$, the value of x when $i = \frac{n+1}{2}$. Otherwise, if n is even, the median is mean of $x_{i=\frac{n}{2}}$ and $x_{i=\frac{n}{2}+1}$. In this case, $n = 64$ and so n is even.

$$\text{median} = \frac{x_{32} + x_{33}}{2} = \frac{35.453 + 35.59}{2}$$

So, median = $\boxed{35.5215}$.