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 $x = 20.754$. This means $i = 3$. We know $n = 10$. Determine the percentile ℓ.

   $$\ell = \frac{3}{10}$$

   $$\ell = 0.3$$

   So, the percentile rank is $\boxed{0.3}$, or 30th percentile.

   (b) We are given $\ell = 0.6$. 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.

   $$i = (10)(0.6)$$
   $$i = 6$$

   Determine the x associated with $i = 6$.

   $$x = \boxed{20.916}$$

   (c) The mean: $\bar{x} = \frac{211.911}{10} = \boxed{21.191}$

   (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, $n = 10$ and so n is even.

   $$\text{median} = \frac{x_5 + x_6}{2} = \frac{20.865 + 20.916}{2}$$

   So, median = $\boxed{20.8905}$.

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 $x = 81.013$. This means $i = 24$. We know $n = 40$. Determine the percentile ℓ.

   $$\ell = \frac{24}{40}$$

   $$\ell = 0.6$$

   So, the percentile rank is $\boxed{0.6}$, or 60th percentile.

   (b) We are given $\ell = 0.775$. 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.

   $$i = (40)(0.775)$$

   $$i = 31$$

   Determine the x associated with $i = 31$.

   $$x = \boxed{81.744}$$

   (c) The mean: $\bar{x} = \frac{3243.084}{40} = \boxed{81.077}$

   (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, $n = 40$ and so n is even.

   $$\text{median} = \frac{x_{20} + x_{21}}{2} = \frac{80.836 + 80.871}{2}$$

   So, median = $\boxed{80.8535}$.