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 $x = 14.507$. This means $i = 3$. We know $n = 9$. Determine the percentile ℓ.

$$\ell = \frac{3}{9}$$

$$\ell = 0.333$$

   So, the answer is 0.333, or 33.3%.

   (b) We are given $\ell = 0.889$. 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.

$$i = (9)(0.889)$$

$$i = 8$$

   Determine the x associated with $i = 8$.

$$x = 15.951$$

   (c) The mean is $\frac{135.582}{9} = 15.0646667$

   (d) If n is odd, then median is $x_{\frac{n+1}{2}}$, the value of x when $i = \frac{n+1}{2}$. Otherwise median is mean of $x_{\lfloor \frac{n+1}{2} \rfloor}$ and $x_{\lceil \frac{n+1}{2} \rceil}$. So, median = 15.304.

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 $x = 60.956$. This means $i = 19$. We know $n = 25$. Determine the percentile ℓ.

$$\ell = \frac{19}{25}$$

$$\ell = 0.76$$

So, the answer is 0.76, or 76%.

(b) We are given $\ell = 0.04$. 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.

$$i = (25)(0.04)$$

$$i = 1$$

Determine the x associated with $i = 1$.

$$x = 50.536$$

(c) The mean is $\frac{1462.908}{25} = 58.516$

(d) If n is odd, then median is $x_{\frac{n+1}{2}}$, the value of x when $i = \frac{n+1}{2}$. Otherwise median is mean of $x_{\lfloor \frac{n+1}{2} \rfloor}$ and $x_{\lceil \frac{n+1}{2} \rceil}$. So, median = 57.891.