1. **Problem**
   From a very large population, a small sample of measurements was taken.

93	86	87	92	83

   Please calculate the average absolute deviation using the following formula:

   $$\text{AAD} = \frac{\sum |x - \bar{x}|}{n}$$

   Solution
   We fill out the table column by column.

x	$x - \bar{x}$	$|x - \bar{x}|$
93	4.8	4.8
86	-2.2	2.2
87	-1.2	1.2
92	3.8	3.8
83	-5.2	5.2
========	========	========
$\sum x = 441$		$\sum|x - \bar{x}| = 17.2$
$\bar{x} = 88.2$		

   We are ready for the formula.

   $$s = \frac{\sum |x - \bar{x}|}{n}$$

   $$= \frac{17.2}{5}$$

   $$= \boxed{3.44}$$

2. **Problem**

From a very large population, a small sample of measurements was taken.

| 69 | 87 | 89 | 69 |

Please calculate the (Bessel corrected) sample standard deviation using the following formula:

$$s = \sqrt{\frac{\sum(x - \bar{x})^2}{n - 1}}$$

Solution

We fill out the table column by column.

x	$x - \bar{x}$	$(x - \bar{x})^2$
69	-9.5	90.25
87	8.5	72.25
89	10.5	110.25
69	-9.5	90.25
=======	=======	=======
$\sum x = 314$		$\sum(x - \bar{x})^2 = 363$
$\bar{x} = 78.5$		

We are ready for the formula.

$$s = \sqrt{\frac{\sum(x - \bar{x})^2}{n - 1}}$$

$$= \sqrt{\frac{363}{4 - 1}}$$

$$= \sqrt{121}$$

$$= \boxed{11}$$