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

114	120	112	114	119	108

   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	$x - \bar{x}$	$\lvert x - \bar{x} \rvert$
114	-0.5	0.5
120	5.5	5.5
112	-2.5	2.5
114	-0.5	0.5
119	4.5	4.5
108	-6.5	6.5
========	========	========
$\sum x = 687$		$\sum \lvert x - \bar{x} \rvert = 20$
$\bar{x} = 114.5$		

   We are ready for the formula.

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

   $$= \frac{20}{6}$$

   $$= \boxed{3.3333333}$$

2. **Problem**

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

52	47	48	50	48	51	47

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	$x - \bar{x}$	$(x - \bar{x})^2$
52	3	9
47	-2	4
48	-1	1
50	1	1
48	-1	1
51	2	4
47	-2	4
========	========	========
$\sum x = 343$		$\sum (x - \bar{x})^2 = 24$
$\bar{x} = 49$		

We are ready for the formula.

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

$$= \sqrt{\frac{24}{7 - 1}}$$

$$= \sqrt{4}$$

$$= \boxed{2}$$