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

139	156	148	144	154

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	$x - \bar{x}$	$\lvert x - \bar{x} \rvert$
139	-9.19999999999999	9.2
156	7.80000000000001	7.8
148	-0.199999999999989	0.2
144	-4.19999999999999	4.2
154	5.80000000000001	5.8
========	========	========
$\sum x = 741$		$\sum \lvert x - \bar{x} \rvert = 27.2$
$\bar{x} = 148.2$		

We are ready for the formula.

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

$$= \frac{27.2}{5}$$

$$= \boxed{5.44}$$

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

140	136	140	140

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	$x - \bar{x}$	$(x - \bar{x})^2$
140	1	1
136	-3	9
140	1	1
140	1	1
========	========	========
$\sum x = 556$		$\sum (x - \bar{x})^2 = 12$
$\bar{x} = 139$		

We are ready for the formula.

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

$$= \sqrt{\frac{12}{4 - 1}}$$

$$= \sqrt{4}$$

$$= \boxed{2}$$