

**1. Problem**

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

93	95	92	95	96
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Please calculate the average absolute deviation using the following formula:

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

**Solution**

We fill out the table column by column.

$x$	$x - \bar{x}$	$ x - \bar{x} $
93	-1.2	1.2
95	0.799999999999997	0.8
92	-2.2	2.2
95	0.799999999999997	0.8
96	1.8	1.8
=====	=====	=====
$\sum x = 471$		$\sum  x - \bar{x}  = 6.8$
$\bar{x} = 94.2$		

We are ready for the formula.

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

$$= \frac{6.8}{5}$$

$$= \boxed{1.36}$$

**2. Problem**

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

113	113	113	127
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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.

$x$	$x - \bar{x}$	$(x - \bar{x})^2$
113	-3.5	12.25
113	-3.5	12.25
113	-3.5	12.25
127	10.5	110.25
=====	=====	=====
$\sum x = 466$		$\sum (x - \bar{x})^2 = 147$
$\bar{x} = 116.5$		

We are ready for the formula.

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

$$= \sqrt{\frac{147}{4 - 1}}$$

$$= \sqrt{49}$$

$$= \boxed{7}$$