* Problem on standard deviation and variance. *

data set : 17, 15, 23, 7, 9, 13.

Find Variance and standard deviation.

solution :-

x	$\bar{x}$	$(x_i - \bar{x})$	$(x_i - \bar{x})^2$
17	14	3	9
15	14	1	1
23	14	9	81
7	14	-7	49
9	14	-5	25
13	14	-1	1
84		0	166

$\Sigma (x_i - \bar{x})^2$.

(n = total value)

$$\text{Variance of sample} = s^2 = \frac{\Sigma (x_i - \bar{x})^2}{n-1}$$

$$s^2 = \frac{166}{6-1} = 33.2$$

$$\text{standard deviation for sample} = \sqrt{s^2}$$

$$s = 5.76$$