

STEP-1- Dataset = 88, 92, 76, 95, 68, 81, 100, 73, 89, 94, 55, 87

STEP-2- Mean:

$$\text{mean} = \text{sum} / n$$

$$\text{Sum} = 88 + 92 + 76 + 95 + 68 + 81 + 100 + 73 + 89 + 94 + 55 + 87 = 998$$

$$n = 12$$

$$\text{mean} = 998 / 12 = \underline{\underline{83.16}}$$

Median: Dataset is ascending order:-

55, 68, 73, 76, 81, 87, 88, 89, 92, 94, 95, 100

here $n=12$, an even number, hence median will be the average of 6th and 7th number

$$\Rightarrow \frac{87 + 88}{2} = \frac{175}{2} = \underline{\underline{87.5}}$$

Variance:

$$\text{variance} = (1/n) \times \text{sum}(d^2)$$

x	$d = x - \text{mean}$	d^2
88	4.83	23.36
92	8.83	78.02
76	-7.16	51.36
95	11.83	140.02
68	-15.16	230.02
81	-2.16	4.69
100	16.8	283.36
73	-10.16	103.36
89	6.83	34.02
94	10.83	117.36
55	-28.16	793.36
87	3.83	14.69

$$\text{Sum of } d^2 = 1873.667$$
$$\text{Variance} = (1/n) \times \text{sum}(d^2)$$

$$= \frac{1873.667}{12} = \underline{\underline{156.13}}$$

Standard Deviation:

$$= \sqrt{\text{Variance}} = \sqrt{156.13} = \underline{\underline{12.49}}$$

Probability of a score greater than 90 :-

score greater than 90 = 92, 95, 100, 94

$$\text{Probability} = \frac{4}{12} = 0.33$$

$$\therefore \underline{\underline{33\%}}$$