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Mathematics

9709/52

Paper 5 Probability & Statistics 1

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Question No (1)

- 1 For n values of the variable x , it is given that

$$\Sigma(x - 200) = 446 \quad \text{and} \quad \Sigma x = 6846.$$

Find the value of n .

Solution:

$$\text{let } y = x - 200$$

$$\sum y = \sum (x - 200)$$

$$\Rightarrow \bar{y} = \bar{x} - 200$$

$$\text{if } y = ax + b$$

Then

$$\bar{y} = a\bar{x} + b$$

and

$$S.D_y = a S.D_x$$

$$\frac{\sum y}{n} = \frac{\sum x}{n} - 200$$

$$\frac{446}{n} = \frac{6846}{n} - 200$$

$$\Rightarrow \frac{6846}{n} - \frac{446}{n} = 200$$

$$\frac{6400}{n} = 200$$

$$\Rightarrow n = 32$$

Ans

$$\bar{y} = \frac{\sum y}{n}$$

$$\bar{x} = \frac{\sum x}{n}$$

