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2241720195/2I

No. 100 Date

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1.

u	f	x_i	$x_i f$	F sum
5-9	4	7	28	4
10-14	9	12	108	13
15-19	16	17	272	29
20-24	12	22	264	41
25-29	6	27	162	47
30-34	3	32	96	50
	50		930	

$$\text{mean} = \frac{930}{50} = 18\frac{3}{5} = 18{,}6$$

$$\text{Modus} = 14{,}5 + 5\left(\frac{16-9}{(16-9)+(16-12)}\right)$$

$$= 14{,}5 + 5\left(\frac{7}{7+4}\right)$$

$$= 14{,}5 + 5\left(\frac{7}{11}\right)$$

$$= 14{,}5 + \frac{35}{11}$$

$$= 14{,}5 + 3{,}2$$

$$\approx 17{,}7 \quad (17{,}6818\ldots)$$

$$\text{Median} = 14{,}5 + 5\left(\frac{25-13}{16}\right)$$

$$= 14{,}5 + 5\left(\frac{12}{16}\right)$$

$$= 14{,}5 + 5 \cdot \frac{3}{4}$$

$$= 14{,}5 + 3{,}75$$

$$= 18{,}25$$

2. mean

In daily life, the usage of mean usually used on average measurement between certain session of daily activities such as gas millage, budgeting, and productivity metrics

modus

the usage of modus focused on frequency of aspects of life such as determining most popular product, regularity on phone usage, and describing characteristic or pattern in criminal activities.

median

median generally display the middle "performance" of data. it is used in the range of house hold income, property price, general performance measurement. only difference is than the mean is that the median is usually use to measure gaps between average and the middle performer

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3 54, 55, 60, 60, 60, 70, 70, 75, 80, 80, 95

mean = 759/11 = 69

median = 70

modus = 60

Yes, it is the same as manual calculation

4 Modus = $16,5 + 6\left(\frac{(12+6)}{(12-6)+(12-8)}\right) = 16,5 + 6\left(\frac{6}{10}\right) = 16,5 + 3,6 = 20,1$

E

5

x	f	f sum	xi	u.f
11-20	3	3	15,5	46,5
21-30	5	8	25,5	127,5
31-40	10	18	35,5	355
41-50	11	29	45,5	500,5
51-60	8	37	55,5	444
61-70	3	40	65,5	196,5
				1670

mean = $\frac{1670}{40} = 41\frac{3}{4} = 41,75$

median = $40,5 + 10\left(\frac{20-18}{11}\right)$

$= 40,5 + 10\left(\frac{2}{11}\right)$

$= 40,5 + 1,8$

$= 42,3$ (42, 3181818)