

Question 1 Understanding Central Tendency :

A bakery tracks the daily sales of muffins (in dozens) over a week : (10,12,11,15,14,12). What is the most representative value of their weekly sales , and why?

ANS

Days	weekly sales
1	10
3	11
2	12
6	12
5	14
4	15

Central Tendency:
Mode
median
Mean

Question no .2 Mean in Real Life

A teacher records the marks of her students in a short quiz (12,15,14,16,18,20,19) What is the mean score , and what does it tell us about the class performance.

Students	Marks
1	12
2	15
3	14
4	16
5	18
6	20
7	19

Total Marks

No.of students

Mean score

The mean score of the class is approximately 16.29, which shows that on average student scored 16.29 in the quiz.

Question no .3 Mode in Real Life

A Store records the shoe sizes sold in one day ,(7,8,9,8,8,10,7,9). what is the mode,ad why is this information useful for the store manager?

Ans

In a one day	shoe sizes sold
	7
	8
	9
	8
	8
	10
	7
	9

Mode

Second part

The mode is 8, which means shoe size 8 was sold the maximum number of times. This information is useful for the store manager to stock up more shoes of size 8 to meet customer demand.

Question 4 Median in Real life :

A Car dealer notes the prices of used cars : cars : (\$8000,\$9500, \$10200,\$1
Why is the median a better measure than the mean in this case ? Calculate the

ANS

No .of cars	Price of used cars	Median
1	8000	
2	9500	
3	10200	\$ 10,200.00
4	11000	
5	50000	

The median price of the used cars is \$10,200 .
the median is a better measure than the mean because the very high price of \$50,000 would increase the mean and not represent the typical car price.

Question no. 5 Dispersion intoduction :

A Student times how long it takes to finish a puzzle each day :(25, 30,27,40).
What does the range tell us about the variation in the students puzzle - solving time?

Ans	Day	Time taken(Minutes)	Maximum value
			40
	1	25	Minimum value
	2	30	25
	3	27	
	4	40	

The range is 15 minutes , which shows the variation between the fastest and slowest puzzle solving times. A higher range indicates more variability in the students performance .

Question no.6 Range in Action .

A farmer records the weekly weight of harvested apples(kg) (100,105,98,110,120)
Find the range. How can this help the farmer in planning his packaging ?

Ans	Weekly weight of harvested apples	
	Range	22
	100	
	105	
	98	
	110	
	120	

The range is 22kg , which shows the difference between the lowest and highest weekly apples . This helps farmer plan packaging by understanding how much the harvest can vary from

Question no.7 Variance for Decisions - making

Two delivery companies track delivery delays (in minutes)

1 Company A: variance = 5

2. Company B; variance = 15

which company is more consistent ,and why ?

Ans

Company A: is more consistent because of less variance :

And lower variance indicates less variability in delivery delays:

Question no .8 Standard Deviation in context

A finance student compares the daily price fluctuations of two cryptocurrencies.

1. Coin A; Standard deviation=\$30

2. Coin B; Standard deviation = \$120

Which coin is riskier to invest in, and why

Ans

Coin B: is riskier to invest.

Why? Because Coin B has a higher standard deviation , its prices fluctuate more, making it

Question no .9 Combining Deviation in context :

A Family records their monthly electricity usage (in Kwh): (400,420,390,450,410)

Find the mean and standard deviation . What do these values together tell you about

Ans

Month	Records in (Kwh)
Jan	400
Feb	420
March	390
April	450
May	410

Mean

Standard deviation

"What do these values together tell you?

The mean electricity usage is 414 kwh, and the low standard deviation (20.59) indicates that the family's monthly energy consumption is fairly consistent with no longer

Question no .10 A Basketball players points in 8 games are recorded .(18,20,22,25,17,19,21).

Find the mean , median, mode , range and standard deviation .

what insights can these measures provide about the players scoring performance?

ANS

Games	Records or games
1	15
2	18
3	20
4	22
5	25
6	17
7	19
8	21

1. Mean

2. Median

3. Mode

4. Range

5. Standard deviation

Part 2

The players scores an average of around 20 points per game .
the median score is close to the mean , showing balanced performance . The low standard deviation indicates that the players , scoring is fairly consistent ,with no extreme fluctuations . The while scores vary the variations in not very large.