

**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 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 r  
This information is useful for the store manager to sto  
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,\$11000,\$50000)  
Why is the median a better measure than the mean in this case ? Calculate the median.

ANS

No .of cars	Price of used cars	
1	8000	Median
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 introduction :**

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)	
1	25	Maximum value 40
2	30	
3	27	Minimum value 25
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	
100	Range 22
105	
98	
110	
120	

The range is 22kg , which shows the difference between the lowest and highest weekly weight of harvested 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 player's 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 range while scores vary the variations in not very large.