Internet Café

Week 2 - Mode, Median, Mean, Range

# **Introduction:**

A new year is coming! The city’s local Internet Café needs help sorting their data from the past year. It is your job to find the café’s average yearly income and report back what months they made a consistent profit!

To complete this task, you will find the mode, median, mean and range for the past year. You will also determine the difference in profit between the quietest month and the busiest!

This week’s challenge has two tasks that you ***must complete*** (Task A and B) and bonus tasks (Task C and D).

We’ve summed up the Internet Café’s profit spreadsheet into a table to highlight the total amount made in sales for each month of the year.

Tips for using Excel: <https://youtu.be/x6LG-Od2ULI>

What are you waiting for? Go!



# **Sales and Profit:**

The following table shows the amount made each month in sales over the past year. You will use this table for both **Task A and B**.

|  |
| --- |
| **Amount made in sales for each month** |
| **Month** | **Amount made** |
|  January | $14,008 |
| February | $9,826 |
| March | $6,899 |
| April | $8,643 |
| May | $5,790 |
| June | $6,899 |
| July | $8,643 |
| August | $7,685 |
| September | $14,003 |
| October | $8,643 |
| November | $16,035 |

The following table shows the Internet Café’s monthly bills. This table is to be used ***only* in Task B**. Calculate the total cost of monthly bills.

|  |
| --- |
| **Monthly Bills** |
| **Type of fee** | **Amount to be paid** |
| Water bill | $243 |
| Gas bill | $99 |
| Electricity bill | $1,139 |
| Internet bill | $ 523 |
| **Total cost of monthly bills** |  |

# **Task A:**

1. Rank the amount made in sales for each month in ascending order (lowest to highest).

|  |  |
| --- | --- |
| Corresponding month | Amount made ($) |
|  |  |
|  |  |
|  |  |
| August | $7,685 |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
| November | $16,035 |

1. Find the mean, median, mode and range for all 11 months in dollars.

|  |  |
| --- | --- |
| Mean |  |
| Median |  |
| Mode |  |
| Range |  |

1. Based on you answer for part (b) what months did you consistently make the same amount in sales?

# **Task B:**

If the Internet Café has bills to pay at the end of each month, then what amount is the Café actually making each month?

***HINT:*** *Refer to* *table ‘Monthly bills’* *on page 2*

|  |  |
| --- | --- |
| Month | Actual amount made ($) |
| January |  |
| February |  |
| March |  |
| April |  |
| May |  |
| June |  |
| July |  |
| August |  |
| September |  |
| October |  |
| November |  |

# **Bonus Task C:**

It’s been reported back to the Internet Café that you found the range between our quietest and busiest month in Task A! The staff there are now wondering if you are able to find the interquartile range (IQR) for the amount made in sales for each month. The IQR is the range between the lower quartile and upper quartile.

***HINT:*** *The table you completed in Task A already has your data set arranged in ascending order (lowest to highest).*

|  |  |
| --- | --- |
| Lower quartile |  |
| Upper quartile |  |
| Interquartile range |  |

# **Bonus Task D:**

The Internet Café are having a closer look at the amount made in sales for each week in the months of January, April and November.

|  |
| --- |
| **Amount made in sales for each week** |
| **January**  | **Amount made** |
| Week 1  | $3,847 |
| Week 2 | $3,436 |
| Week 3 | $3,289 |
| Week 4 | $3,436 |
| **April** | **Amount made** |
| Week 1  | $2,185 |
| Week 2 | $1,765 |
| Week 3 | $2,498 |
| Week 4 | $2,195 |
| **November** | **Amount made** |
| Week 1  | $5,283 |
| Week 2 | $3,082 |
| Week 3 | $4,166 |
| Week 4 | $3,504 |

You were a huge help in the previous tasks and the café staff are hoping you can help them.

1. Find the mean, median, mode and range for the weeks of January.

|  |
| --- |
| **January** |
| Mean |  |
| Median |  |
| Mode |  |
| Range |  |

1. Find the mean, median, mode and range for the weeks of April.

|  |
| --- |
| **April** |
| Mean |  |
| Median |  |
| Mode |  |
| Range |  |

1. Find the mean, median, mode and range for the weeks of November.

|  |
| --- |
| **November** |
| Mean |  |
| Median |  |
| Mode |  |
| Range |  |

**Submission Link:**
<https://survey.sparkchart.com/start/c2aQaL8EbAI8wfyzOHuYuRPNYgw4biVptktAFUf9s/>