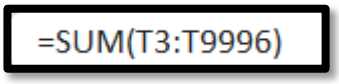
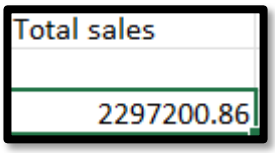
TASK 1:

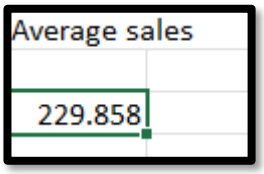
Basic Excel Formulas

1. Calculate Total Sales using SUM()
   Answer:





2. Calculate Average Sales using AVERAGE()
   Answer:



3. Find the Highest and Lowest Sales using MAX() and MIN()
   Answer:

4. Count total number of sales records using: COUNT()

Answer:

```
=COUNT(T:T)
```

Total number of sales
9994

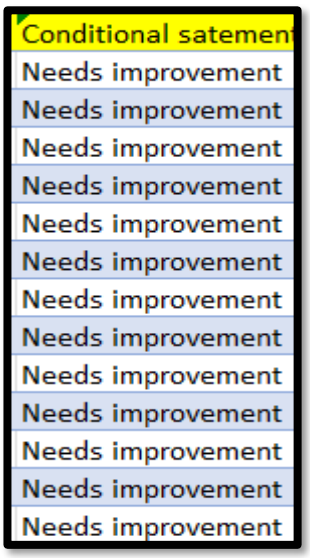
TASK 2:

Logical Functions

5. Use the IF() function to classify sales:
   If Sales > 50,000 → "High Sales" o Else → "Low Sales"
   Answer:

IF satement
Low sales
Low sales
Low sales
Low sales
Low sales
Low sales
Low sales
Low sales
Low sales
Low sales
Low sales
Low sales
Low sales

6. Use AND() or OR() to create a condition-based column Example
   Sales > 30,000 AND Profit > 5,000 → "Good Performance"
   Answer:

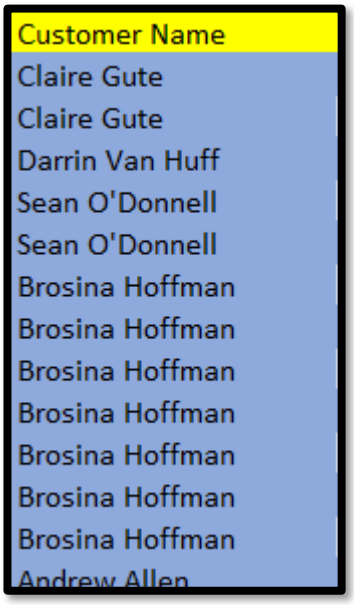


Conditional satemen
Needs improvement
Needs improvement
Needs improvement
Needs improvement
Needs improvement
Needs improvement
Needs improvement
Needs improvement
Needs improvement
Needs improvement
Needs improvement
Needs improvement
Needs improvement

TASK 3:

Data Cleaning in Excel

7. Clean the Customer / Product Name column using:
   TRIM() and PROPER()
   Answer:



Customer Name
Claire Gute
Claire Gute
Darrin Van Huff
Sean O'Donnell
Sean O'Donnell
Brosina Hoffman
Brosina Hoffman
Brosina Hoffman
Brosina Hoffman
Brosina Hoffman
Brosina Hoffman
Brosina Hoffman
Andrew Allen

8. Remove duplicate records from the dataset
   Answer: There is no any duplicate records

9. Use Text to Columns to split: o Email ID OR o Product Code
   Answer:

Product ID
FUR-BO-10001798
FUR-CH-10000454
OFF-LA-10000240
FUR-TA-10000577
OFF-ST-10000760
FUR-FU-10001487
OFF-AR-10002833
TEC-PH-10002275
OFF-BI-10003910
OFF-AP-10002892
FUR-TA-10001539
TEC-PH-10002033
OFF-PA-10002365

10. Use Find & Replace to fix spelling mistakes (if any)
    Answer: There is no spelling mistake in dataset.

TASK 4:
Lookup & Date Functions

11. Use VLOOKUP / XLOOKUP to fetch:
    • Category based on Product ID
    Answer:

```
=VLOOKUP(P26,P2:W9995,2,)
```

Category based on product ID
Furniture

• Region based on Customer ID
Answer:

```
=VLOOKUP(H28,H2:W9996,8,)
```

Region based on customer ID
West

12. Extract:
    - Year using YEAR()

    Answer:

Order Date	Order month	Order Year
08-11-2016	11	2016
08-11-2016	11	2016
12-06-2016	6	2016
11-10-2015	10	2015
11-10-2015	10	2015
09-06-2014	6	2014
09-06-2014	6	2014
09-06-2014	6	2014
09-06-2014	6	2014
09-06-2014	6	2014
09-06-2014	6	2014
09-06-2014	6	2014
15-04-2017	4	2017

    - Month using MONTH() or TEXT()

    Answer:

Order Date	Order month	Order Year
08-11-2016	11	2016
08-11-2016	11	2016
12-06-2016	6	2016
11-10-2015	10	2015
11-10-2015	10	2015
09-06-2014	6	2014
09-06-2014	6	2014
09-06-2014	6	2014
09-06-2014	6	2014
09-06-2014	6	2014
09-06-2014	6	2014
09-06-2014	6	2014
15-04-2017	4	2017

TASK 5:

Pivot Tables & Charts

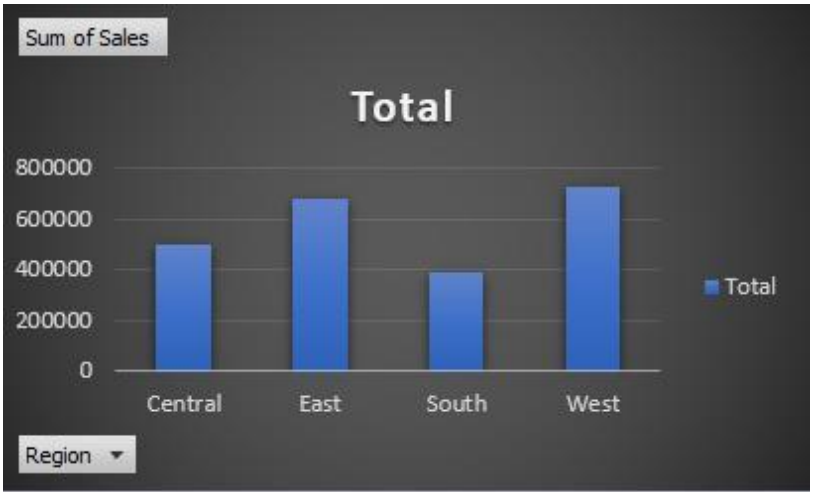
13. Create a Pivot Table showing:
    • Total Sales by Region
    Answer:

Row Labels	Sum of Sales
Central	501239.8908
East	678781.24
South	391721.905
West	725457.8245
Grand Total	**2297200.86**

14. Create a Pivot Table showing:
    • Profit by Category
    Answer:

Row Labels	Sum of Profit
Furniture	18451.2728
Office Supplies	122490.8008
Technology	145454.9481
Grand Total	**286397.0217**

15. Create Pivot Charts for:
    • Sales by Region (Bar/Column Chart)
    Answer:



• Monthly Sales Trend (Line Chart)

Answer:

TASK 6:

Dashboard Creation

16. Create ONE Dashboard Sheet containing:
    - At least 3 Pivot Charts
    - At least 2 Slicers (Region, Category, or Year)
    - Proper titles and clean layout
17. Add KPI Cards (optional but recommended):
    - Total Sales
    - Total Profit
    - Average Sales

TASK 7:

Conceptual Questions

18. Why is Excel still widely used in Data Analytics?

    Answer:

    Despite the rise of specialized tools like Python, R, and Tableau, Excel remains a staple in the industry for several reasons:

    - **Accessibility & Familiarity:** Almost every business professional already has Excel installed and knows the basics, making it the universal language for sharing data between departments.
    - **Speed for Ad-hoc Analysis:** For quick "what-if" scenarios or small-scale data manipulation, it is often faster to use Excel than to write a script.
    - **Low Barrier to Entry:** You don't need to know how to code to perform complex tasks like regressions, sorting, or multi-dimensional analysis.
    - **Versatile Integration:** It connects seamlessly with other Microsoft tools (Power BI, SQL Server) and allows for advanced automation through **Power Query** and **VBA**.

19. What is the difference between COUNT() and COUNTA()?

    Answer:

Function	What it Counts	What it Ignores
COUNT()	Only cells containing **numbers** (including dates and times).	Text, logical values (TRUE/FALSE), errors, and blank cells.
COUNTA()	Any cell that is **not empty** (Text, numbers, errors, or spaces).	Only truly blank cells.

20. What is a Pivot Table and why is it important?
    Answer:
    A **Pivot Table** is an interactive tool used to summarize, sort, reorganize, and group large datasets.
    Why it is important:
    - **Data Summarization:** It can instantly turn thousands of rows of raw transactions into a concise table showing "Total Sales per Region" or "Average Profit per Month."
    - **Flexibility:** You can "pivot" the data by dragging fields between rows and columns to see the same data from different perspectives without changing the original source.
    - **Efficiency:** It performs complex aggregations (Sum, Count, Average) in seconds without requiring manual formulas.

21. What are slicers and how do they help in dashboards?
    Answer:
    Slicers are visual filtering buttons that connect to Pivot Tables or Excel Tables.
    - **Interactive Filtering:** Instead of using traditional drop-down filters, users can click a button (e.g., "Year 2025") to instantly update all connected charts and tables.
    - **Visual Clarity:** Slicers clearly show which filters are currently applied, making it easier for others to read the dashboard.
    - **User Experience:** They transform a static spreadsheet into an interactive "app-like" dashboard that non-technical users can easily navigate.

22. Why is data cleaning important before analysis?
    Answer:
    Data cleaning (or "data scrubbing") is the process of fixing or removing incorrect, corrupted, incorrectly formatted, or duplicate data.
    - **Accuracy of Insights:** Analyzing "dirty" data leads to "Garbage In, Garbage Out." If your data has duplicate entries or typos, your final totals and trends will be wrong.
    - **Consistency:** Standardizing data (e.g., ensuring all dates follow the same DD-MM-YYYY format) allows different datasets to be merged correctly.
    - **Efficiency:** Clean data prevents errors during the calculation phase, saving the analyst from having to troubleshoot broken formulas later.
    - **Informed Decision Making:** Leadership relies on data to make expensive business choices; clean data ensures those choices are based on reality rather than statistical noise.