

MATH 112: INTRODUCTORY SPREADSHEET ANALYSIS

ASSIGNMENT 4: MULTI-TAB SALES DASHBOARD & ADVANCED FORMULAS

Objective: Build a multi-tab sales dashboard in Google Sheets or Microsoft Excel. You will set up raw transactional sales data on a 'Raw Data' tab, calculate line-item totals using arithmetic formulas, build a professional 'Summary' dashboard tab using `=SUMIF()`, `=MAXIFS()`, and `=MINIFS()`, construct a dynamic top-performer highlight card using `=INDEX(MATCH())`, configure data filters, and generate column and line charts to visualize performance trends.

1. Raw Transactional Data Table (Raw Data Tab)

Create a new spreadsheet named **Sales Dashboard**. Rename Sheet 1 to **Raw Data**. Enter the following 20 sales transaction records into cells **A1:G21**. Leave Column G (Total Sale) blank initially—you will calculate it in Step 2.

Date (A)	Salesperson (B)	Region (C)	Product (D)	Units Sold (E)	Unit Price (F)	Total Sale (G)
2026-09-01	Alice	North	Widget A	15	\$20.00	
2026-09-01	Bob	South	Widget B	10	\$35.00	
2026-09-02	Charlie	West	Widget C	25	\$12.00	
2026-09-02	Alice	South	Widget B	8	\$35.00	
2026-09-03	Bob	West	Widget A	20	\$20.00	
2026-09-03	Charlie	North	Widget B	12	\$35.00	
2026-09-04	Alice	West	Widget C	30	\$12.00	
2026-09-04	Bob	North	Widget A	18	\$20.00	
2026-09-05	Charlie	South	Widget B	14	\$35.00	
2026-09-05	Alice	North	Widget C	22	\$12.00	
2026-09-06	Bob	South	Widget A	16	\$20.00	
2026-09-06	Charlie	West	Widget B	9	\$35.00	
2026-09-07	Alice	South	Widget A	25	\$20.00	
2026-09-07	Bob	West	Widget C	40	\$12.00	
2026-09-08	Charlie	North	Widget A	11	\$20.00	
2026-09-08	Alice	West	Widget B	15	\$35.00	
2026-09-09	Bob	North	Widget C	28	\$12.00	
2026-09-09	Charlie	South	Widget A	19	\$20.00	
2026-09-10	Alice	North	Widget B	7	\$35.00	
2026-09-10	Bob	West	Widget C	33	\$12.00	

2. Step-by-Step Instructions for Students

Step 1: Raw Data Tab Setup

Enter the 20 transaction records into cells **A1:G21** on the 'Raw Data' tab. Ensure column headers are in Row 1.

Step 2: Calculate Total Sale per Line Item

In cell **G2**, enter the arithmetic formula: `=E2*F2`
Drag the fill handle from G2 down through **G21**. Format cells **F2:G21** as Currency (\$, 2 decimals).

Step 3: Create Summary Dashboard Tab

Add a second worksheet tab named **Summary**. This tab will house your executive KPIs, summary tables, and charts.

Step 4: Executive KPI Highlights (Top of Summary Tab)

In range **A1:D3** on the Summary tab, set up an Executive Highlight panel:

- **Overall Total Sales (Cell B2):** Enter `=SUM('Raw Data'!G2:G21)`. Format as Currency.
- **Top Salesperson Lookup (Cell D2):** Enter `=INDEX(A6:A8, MATCH(MAX(B6:B8), B6:B8, 0))` to dynamically extract the name of the salesperson with the highest total revenue.

Step 5: Salesperson & Regional Summary Tables (=SUMIF)

Set up two summary aggregation tables on the Summary tab:

- **Salesperson Table (A5:B8):** Headers *Salesperson* (A5) and *Total Sales* (B5). List Alice, Bob, Charlie in A6:A8. In B6 enter: `=SUMIF('Raw Data'!$B$2:$B$21, A6, 'Raw Data'!$G$2:$G$21)` and drag down to B8.
- **Regional Table (D5:E8):** Headers *Region* (D5) and *Total Sales* (E5). List North, South, West in D6:D8. In E6 enter: `=SUMIF('Raw Data'!$C$2:$C$21, D6, 'Raw Data'!$G$2:$G$21)` and drag down to E8.

Step 6: Regional Extreme Analytics (=MAXIFS & =MINIFS)

In range **D11:G14** on the Summary tab, build a Regional Extremes table:

- Headers (D11:G11): *Region*, *Max Single Sale*, *Min Single Sale*, *Spread*.
- In E12 (Max Sale for North): `=MAXIFS('Raw Data'!$G$2:$G$21, 'Raw Data'!$C$2:$C$21, D12)`
- In F12 (Min Sale for North): `=MINIFS('Raw Data'!$G$2:$G$21, 'Raw Data'!$C$2:$C$21, D12)`
- Drag both formulas down through row 14 for South and West.

Step 7: Enable Sorting & Filtering

Switch to the **'Raw Data'** tab. Highlight **A1:G21** and select **Data > Create a filter** (or Filter Button in Excel). Verify drop-down arrows appear on headers.

Step 8: Build Dashboard Visualizations

On the **Summary** tab, insert two visual elements:

1. **Column Chart:** Select A5:B8 (Salesperson summary) and insert a Column Chart. Title: *Total Sales by Salesperson*.
2. **Line Chart:** Select Date and Total Sale from Raw Data and insert a Line Chart. Title: *Daily Sales Revenue Trend*.

3. Submission Checklist & Grading Rubric

Criteria	Description	Points
Multi-Tab Setup & Raw Data	20 transaction records entered; filter applied to A1:G1 on 'Raw Data' tab	3 pts
Line-Item Formula & Formatting	Total Sale calculated via <code>=E2*F2</code> ; Currency formatting applied to F & G	3 pts
Summary Tables (=SUMIF)	Salesperson and Regional summary tables built using cross-sheet <code>=SUMIF()</code>	5 pts
Regional Extremes (=MAXIFS/=MINIFS)	Highest and lowest single sale per region computed correctly	3 pts
Dynamic KPI & Lookup (=INDEX/MATCH)	Total revenue (<code>=SUM</code>) and top salesperson lookup (<code>=INDEX/MATCH</code>) active	3 pts
Charts & Presentation	Titled Column and Line charts created on Summary tab; clean formatting	3 pts
Total Possible	Complete multi-tab sales dashboard spreadsheet	20 pts