1. % Growth Compared to Last Year with VAR

% Growth YoY =
VAR CurrentYearSales = [Total Sales Current Year]
VAR LastYearSales = [Total Sales Last Year]
RETURN
IF(
    LastYearSales = 0, BLANK(),
    DIVIDE(CurrentYearSales - LastYearSales, LastYearSales)
)

2. Difference between Current Month and Previous Month Sales

Sales Diff Current vs Last Month =
VAR CurrentMonthSales =
    CALCULATE([Total Sales], DATESMTD('DATE'[Date]))
VAR LastMonthSales =
    CALCULATE([Total Sales], PARALLELPERIOD('DATE'[Date], -1, MONTH))
RETURN
CurrentMonthSales - LastMonthSales

3. Total Boxes & Average Monthly Boxes (Together) using VAR

Total and Avg Boxes =
VAR TotalBoxes = SUM('Chocolate Sales'[Boxes Shipped])
VAR MonthsCount = DISTINCTCOUNT('DATE'[Year-Month])
VAR AvgBoxes = DIVIDE(TotalBoxes, MonthsCount)
RETURN
"Total Boxes: " & FORMAT(TotalBoxes, "#,##0") &
" / Avg Monthly: " & FORMAT(AvgBoxes, "#,##0.0")

4. Only Average Monthly Boxes Using VAR

Avg Monthly Boxes =
VAR TotalBoxes = SUM('Chocolate Sales'[Boxes Shipped])
VAR MonthsCount = DISTINCTCOUNT('DATE'[Year-Month])
RETURN DIVIDE(TotalBoxes, MonthsCount)

5. % Growth from Last Month

% Growth Last Month =
VAR CurrentMonthSales = CALCULATE([Total Sales], DATESMTD('DATE'[Date]))
VAR LastMonthSales = CALCULATE([Total Sales], PARALLELPERIOD('DATE'[Date], -1, MONTH))
RETURN
IF(
    LastMonthSales = 0, BLANK(),
    DIVIDE(CurrentMonthSales - LastMonthSales, LastMonthSales)
)

6. Moving Average (Last 3 Months)

```
Moving Avg 3 Months =
AVERAGEX(
    DATESINPERIOD('DATE'[Date], MAX('DATE'[Date]), -3, MONTH),
    [Total Sales]
)
```

7. Card Dynamic Message Using Rank + YoY

```
Performance Message =
VAR CurrentSales = [Total Sales Current Year]
VAR LastYearSales = [Total Sales Last Year]
VAR SalesGrowth = DIVIDE(CurrentSales - LastYearSales, LastYearSales)
VAR ProductRank = RANKX(ALL('Chocolate Sales'[Product]), [Total Sales])
RETURN
SWITCH(
    TRUE(),
    ProductRank <= 3 && SalesGrowth > 0, "Top Performer - Sales up by " & FORMAT(SalesGrowth, "0%"),
    SalesGrowth >= 0, "Consistent Performer",
    SalesGrowth < 0, "Needs Improvement"
)
```

8. Top 5 Tips to Optimize DAX Queries (With Explanation)

1. **Use VAR**
   Using VAR helps reduce repeated calculations and makes DAX formulas easier to read and maintain.

2. **Avoid RANKX Twice**
   Calculate RANKX once and reuse the result. This improves query performance and avoids unnecessary recalculations.

3. **Avoid FILTER Unnecessarily**
   Do not use FILTER unless absolutely necessary. Unnecessary filters add complexity and slow down performance.

4. **Reduce Row Context to Scalar Early**
   Convert row context to scalar values as early as possible to reduce overhead and improve calculation speed.

5. **Use SUMMARIZE Wisely**
   Use SUMMARIZE to pre-aggregate data where possible. This simplifies queries and improves performance by reducing the data being processed.

9. Benefits of Using DAX Studio, Performance Analyzer, and Tabular Editor

DAX Studio helps detect slow queries and analyze query plans for performance tuning.

Performance Analyzer shows which visuals or measures are causing slow performance in Power BI reports.

Tabular Editor allows efficient management of large models and enables writing reusable, maintainable DAX scripts.

10. Create Flag for Top 5 Products by Total Sales Using VAR + RANKX

Top 5 Product Flag =
VAR ProductRank =
  RANKX(
    ALL('Chocolate Sales'[Product]),
    [Total Sales],
    ,
    DESC
)
RETURN
IF(ProductRank <= 5, "Yes", "No")

Product	Total Sales	Top 5 Product Flag
50% Dark Bites	$1,087,659.35	Yes
70% Dark Bites	$677,346.22	No
85% Dark Bars	$955,268.24	No
99% Dark & Pure	$960,033.45	No
After Nines	$837,215.67	No
Almond Choco	$890,454.65	No
Baker's Choco Chips	$799,085.67	No
Caramel Stuffed Bars	$742,516.15	No
Choco Coated Almonds	$773,062.91	No
Drinking Coco	$822,245.57	No
Eclairs	$996,947.96	Yes
Fruit & Nut Bars	$829,278.96	No
Manuka Honey Choco	$885,208.03	No
Milk Bars	$866,273.62	No
Mint Chip Choco	$904,989.55	No
Orange Choco	$824,070.85	No
Organic Choco Syrup	$945,345.73	No
Peanut Butter Cubes	$1,036,591.09	Yes
Raspberry Choco	$845,388.41	No
Smooth Sliky Salty	$1,120,201.09	Yes
Spicy Special Slims	$938,131.69	No
White Choc	$1,054,257	Yes
Total	**$19,791,571.86**	**Yes**

1.84
% Growth YoY

Total and Avg Boxes
Total Boxes: 540,437 / Avg Monthly: 15,012.1

15.01K
Avg Monthly Boxes

-1.00
% Growth Last Month

Top Performer – Sales up by 184%
Performance Message

Moving Avg 3 Months by Date