

## Power BI Aggregate Functions

( AVERAGE, AVERAGEA, and AVERAGEX )

### 1. AVERAGE ()

**Definition:** Returns the arithmetic mean of a column containing numbers.

**Syntax:**

AVERAGE (<Column Name>)

- Ignores blank values.
- Only works on numeric columns.

**Example:**

Avg Sales = AVERAGE (Sales [Amount])

It Calculates the average sales amount.

### 2. AVERAGEA ()

**Definition:** Returns the arithmetic mean of a column, but it evaluates text and logical values too.

**Syntax:**

AVERAGEA (<Column Name>)

- Text = 0
- TRUE = 1, FALSE = 0
- Includes blanks as 0.

**Example:**

AvgA Example = AVERAGEA (Data [Response])

If the column has {10, 20, "Text", TRUE}, result =  $(10 + 20 + 0 + 1) / 4 = 7.75$ .

### 3. AVERAGEX ()

**Definition:** Returns the average of an expression evaluated over a table.

**Syntax:**

AVERAGEX(<Table>, <Expression>)

- Very powerful because you can apply calculations before averaging.
- Works on **row-by-row** evaluation, then finds average.

**Example:**

Avg Profit Margin = AVERAGEX(Sales, Sales[Profit] / Sales[Revenue])

**4.APPROXIMATEDISTINCTCOUNT ()**

**Definition:** Returns the approximate number of unique values in a column.

**Purpose:** Faster than DISTINCT COUNT () when working with very large datasets.

**Syntax:**

APPROXIMATEDISTINCTCOUNT(<ColumnName>)

- Useful for big data models where exact distinct count is expensive.
- Provides a result that is close to exact but may differ slightly.
- Performance optimized.

**Example:**

Unique Customers  $\approx$  APPROXIMATEDISTINCTCOUNT (Sales [CustomerID])

**5.COUNT ()**

**Definition:** Counts the number of numeric values in a column.

**Syntax:**

COUNT(<ColumnName>)

- Ignores blanks, text, and logical values.

**Example:**

Count Sales = COUNT(Sales[Amount])

## 6. COUNTA ()

**Definition:** Counts the number of non-empty values in a column.

**Syntax:**

COUNTA(<ColumnName>)

- Includes numbers, text, TRUE/FALSE.
- Excludes blanks.

**Example:**

CountA Example = COUNTA (Data [Response])

## 7. COUNTAX ()

**Definition:** Evaluates an expression for each row in a table, then counts the non-blank results.

**Syntax:**

COUNTAX(<Table>, <Expression>)

- Works row by row.
- More flexible than COUNT/COUNTA.

**Example:**

CountAX Example = COUNTAX( Sales, Sales[Profit] - Sales[Cost])

## 8. COUNTBLANK ()

**Definition:** Counts the number of **blank (empty) cells** in a column.

**Syntax:**

COUNTBLANK(<ColumnName>)

Only checks for blanks, not 0 or text " ".

**Example:**

Blank Count = COUNTBLANK(Sales[Remarks]).

## 9. DISTINCTCOUNT

**Definition:** Counts the unique values in a column.

**Syntax:**

DISTINCTCOUNT(<ColumnName>)

**Notes:**

- Ignores blanks.
- Gives exact unique count.

**Example:**

Unique Countries = DISTINCTCOUNT(Customers[Country])

**10. COUNTX()**

**Definition:** Evaluates an expression for each row in a table, then counts numeric results.

**Syntax:**

COUNTX(<Table>, <Expression>)

- Like COUNTAX, but only counts numeric (not text/logic).

**Example:**

CountX Example = COUNTX(Sales, Sales[Quantity] \* Sales[Price])