**YTD Using TOTALYTD()**

The first Time Intelligence function that we need to evaluate is the **TOTALYTD** function. This function will total up an expression using a specified date field that you can apply a filter to and specify the year ending date. This last part can be especially useful when calculating fiscal year totals. Here is the expression syntax

//TOTALYTD

(Expression,

[dates],

filters,

year ending date,

)

This syntax is broken down into four distinct parts.

* **Expression –**an aggregation of a field values such as SUM(Sales\_fct[SalesAmt]) or any other aggregations using SUMX, CALCULATE, etc.
* **Dates –**the dates that will be used to determine year to date. Make sure to choose the dates that correspond to the metric that you are trying to calculate. For instance, use Sales Date if trying to calculate YTD Sales instead of Last Updated Date, for instance.
* **Filters –**this filter field allows for any criteria or context to be specified when the calculation takes place. This could be to specify a specific region or filter out extraneous data.
* **Year Ending Date –**this will default to 12/31, but if you want to change this for a fiscal date or other date situation, enter in the date as “mm/dd” using quotations.

Here is an example of a YTD calculation.

//Sales YTD =

TOTALYTD(

SUM(Orders[Sales]),

Orders[OrderDate]

)

Using the filter function you can specify either a more specific field value or time frame. In this example I’ve specified that I only want YTD Sales for the East Region.

//East Region Sales YTD =

TOTALYTD(

SUM(Orders[Sales]),

Orders[Order\_Date],

Orders[Region]="East"

)

To get fiscal calendar, use the Year Ending Date option at the end. In this example below, the fiscal year ends on 6/30.

//East Region Sales FYTD =

TOTALYTD(

SUM(Orders[Sales]),

Orders[Order\_Date],

Orders[Region]="East",

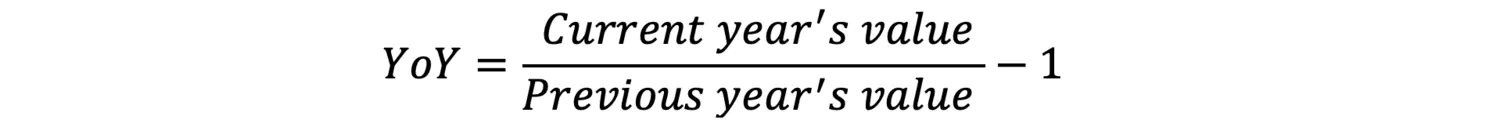
"6/30"

)

**Measure**  
A Calculated Measure in Power BI is a user-defined computation or calculation that is performed on the data within a data model.  
In Power BI Desktop, measures are created and displayed in *Report View*, *Data View*, or *Model View*. Measures you create yourself appear in the **Fields** list with a **calculator icon**. You can name measures whatever you want, and add them to a new or existing visualization just like any other field.

# **YoY (Year-over-Year)**

The formula to calculate Year-over-Year (YoY) is the current year’s value divided by the previous year’s value minus one.



YoY = (CY value – PY value)/PY value

For example, if revenue went from $10 million in Year 1 to $14 million in year 2, the calculation would be:

* YoY Revenue Growth = ($14 million / $10 million) – 1 = 0.4 or 40%

**DAX Calculate Basic Syntax**

The basic [DAX syntax](https://www.datacamp.com/courses/dax-functions-in-power-bi) of the CALCULATE function is:

CALCULATE( <expression> [, <filter1> [, <filter2> [, ...]]])

The CALCULATE function is made up of 2 key components:

* The **expression** - this is the aggregation component that is constructed just like a measure using functions like SUM, AVERAGE, and COUNT.
* The **filters** - this component allows you to specify one or more filters that control the context of the aggregation.

## What is SAMEPERIODLASTYEAR?

SAMEPERIODLASTYEAR is a DAX function that returns a table that contains a column of dates shifted one year back in time from the dates in the specified dates column, in the current context. For example, if you have a table of sales data with a date column, you can use SAMEPERIODLASTYEAR to get a table of sales data from the same period last year.

The syntax of SAMEPERIODLASTYEAR is:

SAMEPERIODLASTYEAR(<dates>)

Where dates is a column containing dates.