

Excel: Calculate Years & Months Between Two Dates

Authored by
stats writer

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Excel stands out as a versatile and indispensable tool for data analysis and management across countless industries. One of its most powerful yet often overlooked capabilities is the precise calculation of time differences between two specified points in time. Determining the elapsed duration in full years and residual months is a common requirement, particularly in fields like finance, human resources, project management, and logistics.

Whether you are tracking employee seniority, calculating the lifespan of assets, or measuring project milestones, the ability to quickly and accurately determine the exact duration between a start date and an end date is critical. While simple date subtraction can yield the total number of days, achieving a result presented cleanly in terms of "X years and Y months" requires a specialized function that handles the intricacies of varying month lengths and leap years.

This tutorial will guide you through the effective application of the hidden, yet highly potent, **DATEDIF function** in Excel. We will provide a robust, step-by-step methodology for constructing a formula that calculates the precise number of whole years and subsequent months that have elapsed between any two given dates, ensuring both speed and accuracy in your temporal calculations.

Understanding the DATEDIF Function Syntax

The **DATEDIF function** is a legacy function in Excel, meaning it is not prominently documented or available via the function insertion wizard, yet it remains fully functional and is the standard method for calculating date differences in specific units (like years, months, or days). It is essential to understand its required arguments to use it correctly.

The basic syntax for the function is structured as follows:

```
=DATEDIF(start_date, end_date, unit)
```

start_date: This is the initial date for the calculation. It must be entered as a valid Excel serial date number or a cell reference containing the date. The start date must always chronologically precede the end date to avoid returning a #NUM! error.

end_date: This is the final date for the calculation, also required to be a valid Excel serial date number or a cell reference.

unit: This argument specifies the type of information the function should return. It must be entered as a text string enclosed in quotation marks. For calculating years and months, we rely on two specific unit codes:

"y": Returns the number of complete years between the start date and the end date.

"ym": Returns the number of remaining months after the full years have been subtracted. This is

crucial for isolating the fractional month component.

Constructing the Comprehensive Duration Formula

To present the elapsed time in a human-readable format, such as "16 years 11 months," we must combine two separate **DATEDIF function** calls using the ampersand operator (&) for **Concatenation**. The first call calculates the full years, and the second calculates the residual months.

For scenarios where the start date is in cell **A2** and the end date is in cell **B2**, the complete, robust formula required to achieve the combined output is as follows:

```
=DATEDIF(A2, B2, "y")&" years "&DATEDIF(A2, B2, "ym")&" months"
```

This formula works by executing two distinct calculations that are then seamlessly joined together. The first part, `DATEDIF(A2, B2, "y")`, extracts the total number of whole years. This result is then concatenated with the literal text string " years ". The second part, `DATEDIF(A2, B2, "ym")`, calculates only the remaining months after accounting for the full years, which is then concatenated with " months". The result is a single text string that clearly displays the duration.

To illustrate this, consider a practical example: if cell **A2** contains the date **1/4/2005** and cell **B2** contains **1/1/2022**. Executing the formula above will yield the precise textual output: **16 years 11 months**. This method is far superior to trying to manually calculate the difference or relying on functions that only return decimal years.

Step-by-Step Example: Calculating Elapsed Time

Let us apply this formula to a typical dataset where we need to determine the tenure or elapsed time for multiple records. Suppose you have inherited a spreadsheet containing project start and completion dates, and you need to calculate the exact duration of each project in years and months. This approach ensures maximum accuracy for historical data analysis.

The initial setup requires two columns dedicated to the dates. For our example, let us assume the following structure, where Column A holds the **Start Date** and Column B holds the **End Date**:

Suppose we have the following list of start and end dates in Excel:

	A	B	C	D	E
1	Start Date	End Date			
2	1/4/2005	1/1/2022			
3	3/15/2007	3/15/2022			
4	4/14/2008	4/18/2022			
5	4/19/2008	4/19/2022			
6	6/20/2013	5/20/2022			
7	7/10/2015	6/10/2022			
8	7/11/2016	6/15/2022			
9	8/14/2016	7/29/2022			
10	8/15/2017	10/30/2022			
11	9/12/2018	12/23/2022			
12					
13					
14					
15					
16					

Our objective is to calculate the number of full years and months elapsed between the dates in rows 2, 3, 4, and 5, placing the final result in a new column, which we will call Duration (Column C in the subsequent steps, although the original image shows the formula being placed in B2, we will use C2 for clearer demonstration in the result images).

Applying the DATEDIF Formula to the Data Set

We begin by inputting the comprehensive duration formula into the first cell where we want the result to appear, which is cell **C2** (referencing A2 and B2). This cell will display the elapsed time for the first row's dates. Note that while the formula structure remains the same, the cell references must accurately point to the start date and end date for that specific row.

We can type the following formula into cell **C2** to achieve the desired output:

=DATEDIF(A2, B2,"y")&" years "&DATEDIF(A2, B2,"ym")&" months"

After entering the formula into cell C2, press Enter. Excel will immediately calculate the duration for the first entry. Since the cell references (A2 and B2) are relative references, we can easily populate the rest of the column without manually rewriting the formula for each row.

To apply this formula to the remaining dates in the list, simply select cell **C2**, locate the fill handle (the small square in the bottom-right corner of the selected cell), and click and drag it downwards to the corresponding cells (C3, C4, C5). This action efficiently copies the formula while automatically adjusting the row references (A3/B3, A4/B4, etc.).

The resulting spreadsheet, after applying the formula and dragging it down, clearly presents the calculated duration for every record:

	A	B	C	D	E	F	G
1	Start Date	End Date	Years & Months Between Dates				
2	1/4/2005	1/1/2022	16 years 11 months				
3	3/15/2007	3/15/2022	15 years 0 months				
4	4/14/2008	4/18/2022	14 years 0 months				
5	4/19/2008	4/19/2022	14 years 0 months				
6	6/20/2013	5/20/2022	8 years 11 months				
7	7/10/2015	6/10/2022	6 years 11 months				
8	7/11/2016	6/15/2022	5 years 11 months				
9	8/14/2016	7/29/2022	5 years 11 months				
10	8/15/2017	10/30/2022	5 years 2 months				
11	9/12/2018	12/23/2022	4 years 3 months				
12							
13							
14							
15							

Column C now accurately displays the number of full years and months that have elapsed between the designated start date and end date for every corresponding row. This method ensures that the time difference is presented in the most common and intuitive duration format.

Enhancing Readability Through Output Formatting

While the concatenated output "1 year 2 months" is technically correct, it sometimes lacks the polish expected in formal reports. Many users prefer to include additional punctuation, such as a comma, to separate the year and month components, improving overall readability and visual separation. Because the duration is outputted as a text string (due to the use of **Concatenation**), we can easily modify the formula to include this punctuation.

To add a comma between the calculated years and months, you only need to insert the comma and a space within the text string segment that bridges the two **DATEDIF function** calls. We modify `&" years "& to &" years, "&`.

The revised formula designed to include a comma separation is:

=DATEDIF(A2, B2,"y")&" years, "&DATEDIF(A2, B2,"ym")&" months"

By implementing this small modification, the presentation of the output is significantly enhanced, offering a cleaner look for presentations or reports. The underlying calculation remains identical, only the display format is adjusted.

Applying this updated formatting formula to the same dataset demonstrates the improved visual separation in the results:

	A	B	C	D	E	F	G
1	Start Date	End Date	Years & Months Between Dates				
2	1/4/2005	1/1/2022	16 years, 11 months				
3	3/15/2007	3/15/2022	15 years, 0 months				
4	4/14/2008	4/18/2022	14 years, 0 months				
5	4/19/2008	4/19/2022	14 years, 0 months				
6	6/20/2013	5/20/2022	8 years, 11 months				
7	7/10/2015	6/10/2022	6 years, 11 months				
8	7/11/2016	6/15/2022	5 years, 11 months				
9	8/14/2016	7/29/2022	5 years, 11 months				
10	8/15/2017	10/30/2022	5 years, 2 months				
11	9/12/2018	12/23/2022	4 years, 3 months				
12							
13							
14							
15							

The years and months now have a comma in between them in the output of column C, fulfilling the requirement for a more formal and structured text output. This level of customization ensures that the data output aligns perfectly with organizational or presentation standards.

Addressing Common Errors and Debugging DATEDIF

Despite its utility, the **DATEDIF function** can be temperamental, primarily because of its undisclosed nature within the current Excel documentation. Users often encounter specific errors that can be quickly resolved with a few troubleshooting steps.

The most frequent errors encountered when using this formula typically involve incorrect date order or improper unit codes. Here is a brief guide to diagnosing common issues:

#NUM! Error: This error almost always occurs because the `start_date` is chronologically later than the `end_date`. The function requires the start date to be earlier. Always verify that your cell references are correctly positioned, with the older date as the first argument (start date) and the newer date as the second argument (end date).

#VALUE! Error: This typically indicates that one of the cell references does not contain a valid date format. Although Excel is generally robust with various date formats, ensure that the cells referenced (A2 and B2 in our example) are explicitly formatted as Date cells and contain values Excel recognizes as dates, not text strings.

Incorrect Month Count (e.g., getting 12 instead of 0): Ensure that when calculating the residual months, you use the "ym" unit code and not "m". The "m" unit returns the total number of whole months between the two dates, whereas "ym" correctly returns the remaining months after subtracting whole years.

Conclusion: Mastering Temporal Calculations in Excel

Mastering the calculation of time spans in Excel is essential for anyone dealing with long-term data tracking. The comprehensive formula detailed here leverages the power of the **DATEDIF function**-a tool specifically engineered for precise date interval measurements--combined with intelligent text **Concatenation** to deliver an accurate and professional output.

By understanding the arguments "y" (for full years) and "ym" (for residual months), users can rapidly transform raw date inputs into meaningful duration summaries. This capability saves significant time and minimizes the risk of manual calculation errors associated with complex date arithmetic, providing valuable insights across various business and analytical contexts.

The complete documentation for the **DATEDIF function** in Excel provides further technical details and alternative unit codes for advanced temporal analysis.

Note: You can find the complete documentation for the **DATEDIF function** in Excel .