

How to use the TREND function in Excel

You can calculate and visualize trends in Excel using the TREND function. Here's how to use the TREND function in Microsoft Excel.

You can calculate and visualize trends in Excel using **the TREND function** . Doing so will give you insights into your data and make it easier to make forecasts.



What is Trend Line?

A trend line is a straight line that shows whether data is increasing or decreasing over time. It is often applied to time series, where you can track values over specific time periods.

A trendline serves as a visual representation of a trend, showing the general direction of your data. It rarely fits all the values in a series perfectly unless they are already aligned in a straight line. Instead, it is the best possible approximation, giving you a clear sense of the overall movement.

One of the most practical uses of a trendline is prediction. By extending a trend, you can predict future values. This is where the slope of the line becomes essential—it shows the speed and direction of the trend. However, calculating a trend manually is tedious and, of course, error-prone. That's where Excel's TREND function comes in handy.

What is the TREND function in Excel?

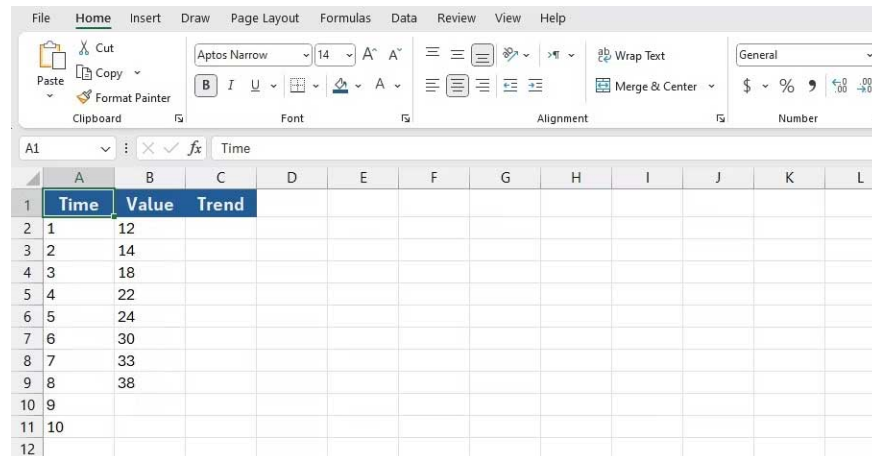
TREND is a statistical function that uses your known data (X and Y) to create a trend line and predict future values. Its syntax is simple:

```
=TREND([known_Ys], [known_Xs], [new_Xs], [const])
```

The first two arguments, `known_Ys` and `known_Xs`, are the data you already have. `new_Xs` is the data you want to predict and calculate the trend for. The `const` argument determines whether to include the intercept value (b) in the trendline equation ($y = ax + b$). If set to `TRUE` or omitted, Excel calculates a intercept value; if set to `FALSE`, Excel assumes no intercept value.

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To better understand `TREND`, let's look at an example. Let's say you have eight known `Y` values ??(1 through 8) and their corresponding `X` values ??(also 1 through 8). You're missing values ??for times 9 and 10 and you want Excel to project them.



	A	B	C	D	E	F	G	H	I	J	K	L
1	Time	Value	Trend									
2	1	12										
3	2	14										
4	3	18										
5	4	22										
6	5	24										
7	6	30										
8	7	33										
9	8	38										
10	9											
11	10											
12												

First, click on the cell where you want the new `Ys` to appear (`C2` in this example). Then, enter the formula below in the formula bar:

```
=TREND(B2:B9, A2:A9, A2:A11)
```

This formula calls the `TREND` function and plugs in cells `B2:B9` as the known `Ys`. Then it plugs in `A2:A9` as the known `Xs`. Finally, the formula tells `TREND` that `A2:A11` will be the new `Ys`. These new `Ys` are calculated outside the trendline.

When you press **Enter**, Excel fills the cells with the trend values. Observe how the predicted `Ys` in the trend, although linear, are close to the known `Ys`.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Time	Value	Trend									
2	1	12	10.75									
3	2	14	14.5									
4	3	18	18.25									
5	4	22	22									
6	5	24	25.75									
7	6	30	29.5									
8	7	33	33.25									
9	8	38	37									
10	9		40.75									
11	10		44.5									
12												
13												
14												

Above is **how to use the TREND function in Microsoft Excel** . Hope the article is useful to you.

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