#### FORECAST

[Syntax](Syntax.docx):

FORECAST ( x , known-ys , known-xs )

Description: Calculates, or predicts, a future value by using existing values. The predicted value is a y-value for a given x-value. The known values are existing x-values and y-values, and the new value is predicted by using linear regression.

Mathematical Formula:

FORECAST=a+bx, where:

Equation

and:

Equation

and where x and y are the sample means AVERAGE(known-xs) and AVERAGE(known-ys).

Arguments:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| [x](x.docx) | number | The data point for which a value is to be predicted. |
| known-xs | array, [reference](reference.docx) | The independent data. |
| known-ys | array, [reference](reference.docx) | The dependent data. |

Return Type and Value: number – The future value.

However, if

* known-xs and known-ys are empty or contain a different number of data points, the return value is unspecified.
* The variance of known-xs equals zero, the return value is unspecified.

[Example:  
  
FORECAST(30,{6,7,9,15,21},{20,28,31,38,40}) results in 10.60725309  
  
end example]