



Forecast With Ease And Confidence: Use A Straight Line

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Summary:

Many people in sales, marketing, or general management roles are asked to provide forecasts. Here is a good way to get started, using an arithmetic progression to create a straight line forecast.



Many people in sales, marketing, or general management roles are asked to provide forecasts. Not everyone has sophisticated analytical software tools, or feels comfortable tackling the math. Here is a real-life example of how you can use a straight line (arithmetic progression) to create a forecast with ease and confidence. Assume management has said the company will grow at an 8% rate this year. Last year your quota was \$5M dollars, so you can calculate that this year it will be \$5.4M. But how do you calculate the individual months so that they add up to \$5.4M, and have a growth rate of 8%? An arithmetic progression provides the answer.

EXAMPLE 1:

Given: $S_n = \$5,400,000$, $n = 12$, $y = 8\%$

Find: a_1 - a_{12} .

Table 1

a_1	432,692	a_5	445,280	a_9	457,867
a_2	435,839	a_6	448,427	a_{10}	461,014
a_3	438,986	a_7	451,573	a_{11}	464,161
a_4	442,133	a_8	454,720	a_{12}	467,308

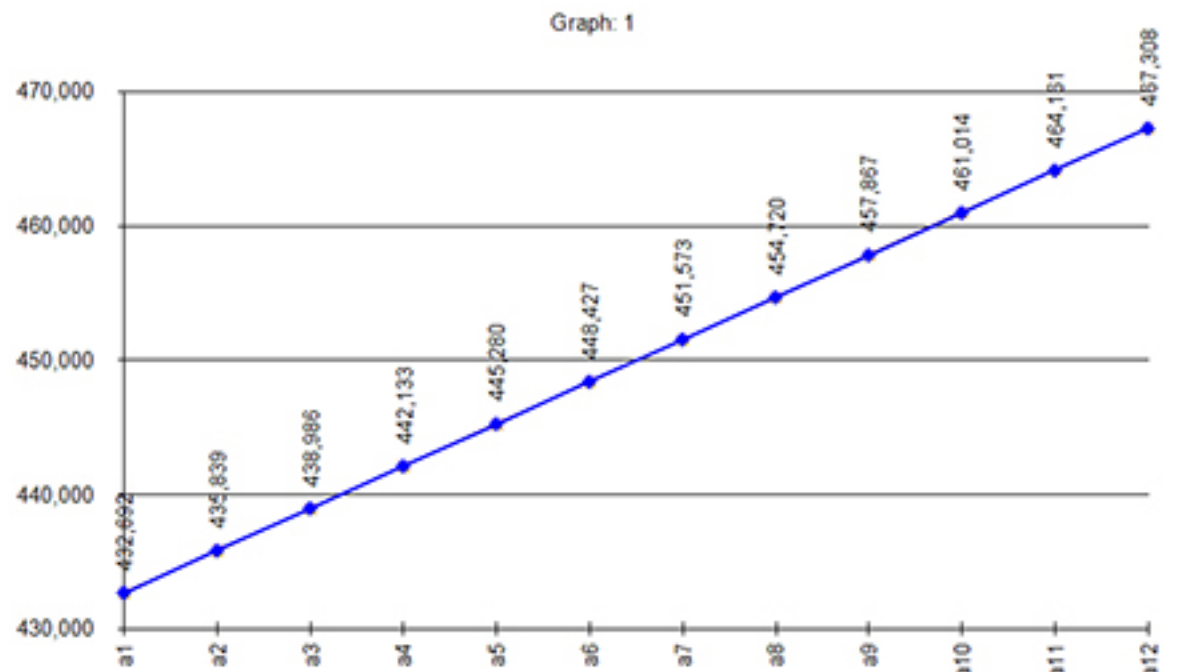


Table 1 shows the calculated values used in Graph 1, which plots the results for each month a_1 - a_{12} . A spreadsheet can facilitate some quick **what if's** and can be built using the following information. The equation for an arithmetic progression is, $S_n = n/2[2a_1 + (n-1)d]$. Where: S_n is the sum of n terms, n is the number of terms, a_1 is the first term, a_n is the n th term, d is the common difference and y is the growth rate.

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