

The Goal Seek Tool

The *Goal Seek* tool allows you to determine what value a particular argument needs to hold so that that a function will return a specified value. In this example the PMT function has calculated that a loan of £20,000 over 60 months at an interest rate of 6.8% per annum will require a monthly repayment of £394.14. Using the Goal Seek tool you can find out, for example, how much money you could borrow if the repayments were only £350 per month. Essentially, you tell Excel what you want the answer to be and which value it can change to achieve that.

1. Open the Goal Seek tool by going to the **Data** tab then choosing **What-If Analysis** and **Goal Seek**.
2. In the Goal Seek dialog box to specify which cell will display the desired value. Click in the **Set cell:** textbox then click on the cell that displays the result of your calculation. This cell must contain a calculation (a formula or function).
3. Type the value that you want the calculation to return in the **To value:** textbox.
4. Specify which cell contains a value that Excel can change in order to arrive at the desired result by clicking in the **By changing cell:** textbox then clicking on the cell that contains the value that you are allowing Excel to change. This cell must be one of the values used, directly or indirectly, in the calculation.
5. Click the **OK** button to perform the Goal Seek.

When you click **OK** Excel calculates the required value and opens a new dialog box to display the result. It also inserts a new value into the specified cell so that the calculation now displays the required result (*Fig. 1*). Click **OK** to accept the new value or **Cancel** to restore the original value on the worksheet.

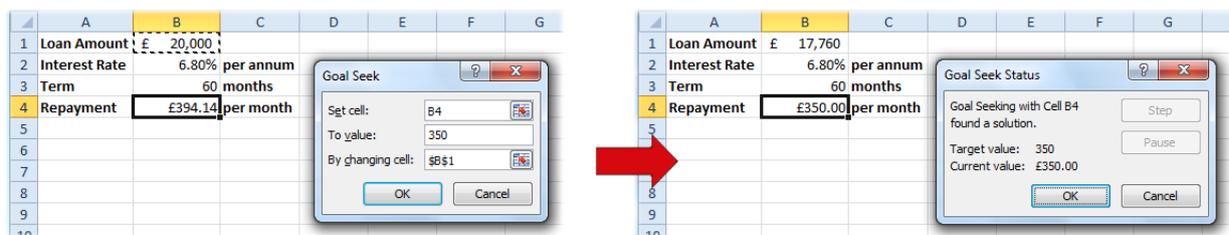


Fig. 1 Using the Goal Seek tool to arrive at a specified value.

The Goal Seek tool is very useful and saves a lot of "trial and error" when trying to forecast the result of changes to your calculations, but it is limited to changing only one variable at a time. To see the result of a changing input over a range of values would require you to run Goal Seek many times and record the input values and results for each. (Excel's *Solver* Add-In can be used for working with more than one variable but is a very much more complex tool to use.) Fortunately, Excel has another tool to help simplify that job, the *Data Table*.