

Excel Goal Seek Function

- ◆ **Goal Seek** are part of a suite of commands sometimes called *what-if analysis*.
- ◆ **Goal Seek** uses a process of changing the values in cells to see how those changes affect the outcome of formulas on the worksheet.
- ◆ The command use iteration in a controlled way to obtain desired results.
- ◆ You can use **Goal Seek** when you know the desired result of a single formula but not the input value the formula needs to determine the result.

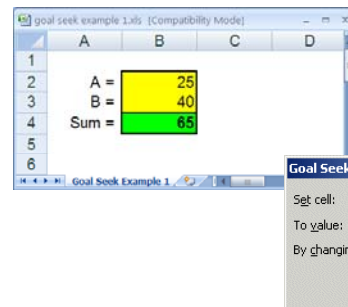
Excel Goal Seek Function

- ◆ To understand how **Goal Seek** works and how you might apply this function, consider the following problem
 - ◆ We will use **Goal Seek** to find a number to make the sum equal to 100:
- $B2 = 25; B3 = 40; B4 = \text{SUM}(B2:B3)$
- ◆ On the **Data** tab, in the **Data Tools** group, click **What-If Analysis**, and then click **Goal Seek**.

Excel Goal Seek Function

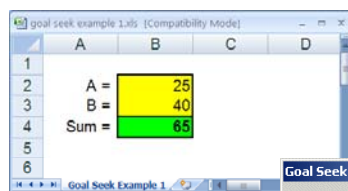
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 - ◆ We will use **Goal Seek** to find a number to make the sum equal to 100:
- $B2 = 25; B3 = 40; B4 = \text{SUM}(B2:B3)$
- ◆ In Goal Seek: **Set Cell:** click on B4; **To Value:** enter 100; **By Changing Cell:** click on B3
 - ◆ The sum in B4 should now be 100, and the value in cell B3 should be 75

Excel Goal Seek Function



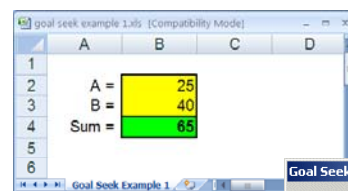
- ◆ On the **Data** tab, in the **Data Tools** group, click **What-If Analysis**, and then click **Goal Seek**.

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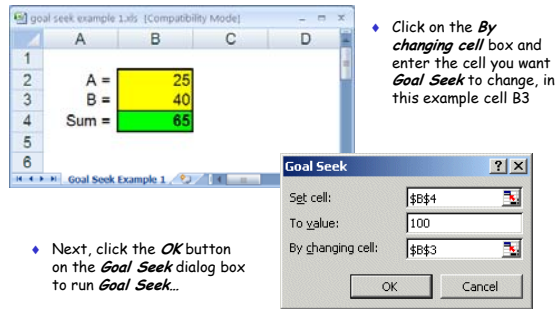
- ◆ Click on the **Set cell** box and select cell B4

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- ◆ Click on the **To value** box and enter the desired value, in this case 100

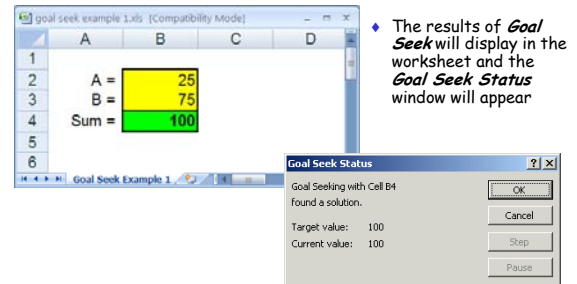
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Click on the **By changing cell** box and enter the cell you want **Goal Seek** to change, in this example cell B3

Next, click the **OK** button on the **Goal Seek** dialog box to run **Goal Seek**...

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The results of **Goal Seek** will display in the worksheet and the **Goal Seek Status** window will appear

Excel Goal Seek Function

- ◆ Troubleshooting a **Goal Seek**
 - ◆ Make sure the **Set cell** reference is to a cell that contains a formula, function, or cell reference
 - ◆ Make sure the **To value** cell value is a reasonable value
 - ◆ Make sure the **By changing cell** reference is a number or blank, and not a formula, function, or cell reference
 - ◆ Make sure there is a link by formulas between the two cells you entered in the **Goal Seek**.
 - ◆ However complicated the link might be, they must be related for the **Set cell** to be a function of the **By changing cell**

Excel Goal Seek Function

- ◆ Could we use the Goal Seek function to solve root finding problems?
- ◆ How would you formulate this problem?

$$f(x) = 0$$

- ◆ What would be the **Set cell** reference?
- ◆ What would be the **To value** cell value?
- ◆ What would be the **By changing cell** reference?

Excel Logical Functions

Questions?

