

Define and solve a problem by using Solver:

(This procedure mainly obtained from MS-Excel help menu)

1. On the **Tools** menu, click **Solver**.

If the **Solver** command is not on the **Tools** menu, you need to install the Solver add-in.

2. In the **Set Target Cell** box, enter a cell reference or name for the target cell. The target cell must contain a formula.

3. To have the value of the target cell be as large as possible, click **Max**.

To have the value of the target cell be as small as possible, click **Min**.

To have the target cell be a certain value, click **Value of**, and then type the value in the box.

4. In the **By Changing Cells** box, enter a name or reference for each adjustable cell, separating nonadjacent references with commas. The adjustable cells must be related directly or indirectly to the target cell. You can specify up to 200 adjustable cells.

To have Solver automatically propose the adjustable cells based on the target cell, click **Guess**.

5. In the **Subject to the Constraints** box, enter any constraints you want to apply.

6. Click **Solve**.

7. To keep the solution values on the worksheet, click **Keep Solver Solution** in the **Solver Results** dialog box.

To restore the original data, click **Restore Original Values**.

Tips

- You can interrupt the solution process by pressing ESC. Microsoft Excel recalculates the worksheet with the last values found for the adjustable cells.

Using MS-Excel Solver to solve system of equations:

First equation of the system can be used as objective function.

1. In the MS-Excel working sheet, define a reference cell for each variable.
Just enter any value of number for each variable.
2. Define a target cell for each equation. Enter each equation by using variables to these cells as a formula.
3. On the **Tools** menu, click **Solver**.
4. In the **Set Target Cell** box, enter the cell reference of the first equation.
5. To have the target cell be a certain value, click **Value of**, and then type the value in the box.
6. In the **By Changing Cells** box, enter a reference for each variable cell, separating nonadjacent references with commas.
7. In the **Subject to the Constraints** box, enter the remaining equations by using **Add** button (from equation-2 to last one).
8. Click **Solve**.
9. To keep the solution values on the worksheet, click **Keep Solver Solution** in the **Solver Results** dialog box.

Example:

$$3a + 5b + 7c = 13 \quad \text{Equation-1}$$

$$2a - 3b + 9c = 17 \quad \text{Equation-2}$$

$$-8a + 9b - c = 5 \quad \text{Equation-3}$$

Variables: a, b, c

1. Enter 1 in the cell A2 for variable a.
2. Enter 1 in the cell B2 for variable b.
3. Enter 1 in the cell C2 for variable c.
4. Enter the formula “=3*A2+5*B2+7*C2” in the cell E2 for Equation-1.
5. Enter the formula “=2*A2-3*B2+9*C2” in the cell E3 for Equation-2.
6. Enter the formula “=-8*A2+9*B2-C2” in the cell E4 for Equation-3.
7. On the **Tools** menu, click **Solver**.
8. In the **Set Target Cell** box, enter the cell reference of the first equation, which is **\$E\$2**.
9. Click **Value of**, and then type **13** in the box.
10. In the **By Changing Cells** box, enter **\$A\$2:\$C\$2** as reference for each variable cell.
11. In the **Subject to the Constraints** box, enter the remaining equations by using **Add** button (Equation-2 and Equation-3).
\$E\$3 = 17
\$E\$4 = 5
12. Click **Solve**.
13. To keep the solution values on the worksheet, click **Keep Solver Solution** in the **Solver Results** dialog box.

