Microsoft Office Excel 2010: Comprehensive Q&As – Chapter 9

How do I interpret the precedent arrows? (EX 562)
The arrows in Figure 9 – 4 and Figure 9 – 5 have arrowheads on traced cells and dots on cells that are direct precedents of the cells with arrowheads. Cells B15 through D15 are precedents of cell E15. Cell D15, which is assigned the formula =D13*loom_cost_24, has precedents in cells D13 and D5. Clicking the Trace Precedents button a second time displays the next level of precedents for the traced cell. A heavier blue line through a range of cells indicates that all cells in the range are precedents. For example, in Figure 9 – 4, the heavier blue line through the range B15:D15 indicates that these cells are precedents of cell E15.

How do precedent arrows help troubleshooting? (EX 562)
The arrows in Figure 9 – 5 indicate why cell C15 contains 1452.31, when it should be 0. Cells B15 and D15 have precedent cells in rows 13 and 5. However, cells C5 and C4 should be precedents to cell C15. This inconsistency, along with the nonzero value in C15, suggests that the formula in cell C15 is incorrect.

What does it mean that cell M5 in the Materials Calculations worksheet is a precedent cell for cell C5? (EX 564)
In this case, it means that cell C5 contains a formula that refers to cell M5.

Do I have to remove the precedent arrows level by level? (EX 565)
No. If you click the Remove Arrows button, you remove all arrows at once.

What is the meaning of the dependent arrows? (EX 565)
Figure 9 – 11 indicates that cells B11, B13, B14, and E8 depend on cell B8. Cell B8 must have a value entered before any of its dependents can have a value other than zero.

What is displayed in each column of the Watch Window? (EX 567)
The Watch Window displays six columns of information for each cell: the workbook that contains the cell (Book), the worksheet that contains the cell (Sheet), the cell name (Name), the cell reference (Cell), the current value in the cell (Value), and the formula for the cell (Formula).

How should I use the Watch Window? (EX 568)
You continue to display the Watch Window while you make adjustments to the structure of a worksheet or while you modify other values in the worksheet. To remove a watch, select the watched cell in the Watch Window and then click the Delete Watch button on the Watch Window toolbar.

Why did editing the formula in cell J26 correct the error? (EX 570)
Cell J26 should contain the amount of yarn used in pounds, which can be calculated by dividing the number of yards used in cell J25 by the number of yards per pound in cell I24. Originally, this cell contained the formula =J25/J24. Because cell J24 does not contain a value, Excel displayed a #DIV/0! error code in cell J26. Correcting this error also corrects the error in cell J28 because cell J26 is a precedent cell for cell J28. The Watch Window now contains 0.00 and $0.00 in the Value column, meaning that cells D14:E14 and D16:E16 no longer contain #DIV/0 errors.

Why are all of the #DIV/0! errors corrected in the Show Inventory worksheet? (EX 571)
Cell J28 on the Materials Calculations worksheet is a precedent cell of cell D14. Correcting the error in cell J28 corrected the error in D14. D14 is a precedent of cells E14 and D16, so the correction in cell D14 also corrected the errors in cells E14 and D16. Finally, cell D16 is a precedent of E16, so the correction to D16 corrects the error in cell E16. Correcting one error can have a waterfall effect throughout a worksheet.
What is the purpose of the Ignore blank check box? (EX 573)
The Ignore blank check box should be cleared if you want to require that the user enter data in the cell. By leaving the Ignore blank check box selected, Excel allows the user to select the cell and then deselect the cell without entering data.

How else can I validate data? (EX 574)
Excel allows several types of validation to be set in the Validation criteria area shown in Figure 9 – 23. Each selection in the Validation criteria area changes the type of value that Excel allows a user to enter in the cell. In the Allow list, the Any value selection allows you to enter any value, but still allows you to specify an input message for the cell. The Whole number, Decimal, Date, and Time selections permit only values of those types to be entered in the cell. The List selection allows you to specify a range that contains a list of valid values for the cell. The Text length selection allows only a certain length of text string to be entered in the cell. The Custom selection allows you to specify a formula that validates the data entered by the user.

What does the Stop error style mean? (EX 575)
You can select one of three types of error styles. Stop prevents users from entering invalid data in a cell. Warning displays a message that the data is invalid, and lets users accept the invalid entry, edit it, or remove it. Information displays a message that the data is invalid, but still allows users to enter it.

What is the result of the validation rules just created? (EX 575)
If a user selects one of the cells in the ranges B8:B10, C9:C10, or D8:D9, Excel displays the input message defined in Figure 9 – 24. If the user enters a value that either is less than zero or is not a whole number in cells in the ranges B8:B10, C9:C10, and D8:D9, Excel displays the error message defined in Figure 9 – 25 and forces the user to change the value to a valid number before deselecting the cell.

Why does the Input Error dialog box appear after entering 300.5 in cell B8? (EX 576)
You set a data validation rule in cell B8 that accepts only whole numbers greater than or equal to zero. Because 300.5 is not a whole number, Excel displays the Input Error dialog box with the title and error message you specified when you set the data validation rule.

Do the values entered in Step 2 solve the problem for Loom 1? (EX 576)
No. Cell B19 indicates that the wraps must be woven in 20 days or less. The values entered in Step 2 mean that the wool wraps will be woven in 79.17 days on Loom 1.

Does the value entered in Step 3 solve the problem for Loom 3? (EX 577)
No. The value entered in Step 3 means that the wool wraps will be woven in 20.83 days on Loom 3, which is greater than the 20-day constraint shown in cell B19.

How can cell B10 contain a negative number when data validation rules only allow numbers greater than or equal to zero? (EX 579)
Data validation rules are applied only to data that is entered into a cell. Entries that are the result of calculations will not produce a data validation error.

What are some limitations of using goal seeking? (EX 580)
Goal seeking allows you to manipulate only one cell in order to reach a goal. In this example, to change the total number of days on Loom 1 to 20, the number of luxury wraps is changed to –60. Goal Seek can produce a result that is acceptable mathematically, but not logically, as is the case here.
Has the problem been solved? (EX 580)
No. At this point, all looms are meeting the 20-day constraint, but there are no luxury wraps being produced. Even if all holiday show inventory constraints were met, you still have no way of knowing whether the goal to maximize production (cell E11) has been achieved.

How is the Constraint box used? (EX 584)
When adding constraints, as shown in Figure 9 – 38, Solver allows you to enter a cell reference followed by an operator. If the operator is <=, >=, or =, then you enter the constraint value in the Constraint box. The constraint can be a value or a cell reference. Other valid operators are int, for an integer value, or bin, for cells that contain only one of two values, such as yes/no or true/false.

What do the entries in the Add Constraint dialog box in Figure 9 – 38 mean? (EX 584)
The entries limit the number of wraps on Loom 1 (cells B8:B10) to a number greater than or equal to zero.

What should I do if a constraint does not match the ones shown in Figure 9 – 41? (EX 585)
Select the constraint, click the Change button, and then enter the constraints as shown in Table 9 – 2 on page EX 583.

What does Simplex LP mean? (EX 586)
LP stands for linear progression, and Simplex refers to the basic problem solving method used to solve linear problems.

What is the result of using Solver? (EX 587)
Figure 9 – 45 shows that all of the constraints in the problem have been satisfied. The total number of wraps is 1040, which is 90 more than the number needed for show inventory. This solution both meets the constraints and maximizes the number of wraps produced.

What is shown in the Answer Report? (EX 588)
Figure 9 – 47 shows additional information about the constraints that you placed on the problem and how the constraints were used to solve the problem. Column F, the Status column, indicates whether the constraint was binding or not. A constraint that is binding is one that limited the final solution in some way. For example, the total number of wraps in cell E11 in the Show Inventory worksheet is binding because the solution found the maximum number required by the constraints, which is 1,040 wraps. No more wraps could be produced given the constraints. A constraint that is not binding is one that was not a limiting factor in the solution that Solver provided.

What does Excel display in the list of changing cells in the Scenario Values dialog box? (EX 592)
Excel displays the cells identified as changing cells in a numbered list with their current values (Figure 9 – 53). Names were assigned to these cells when the worksheet was created, and these are used rather than cell references in the numbered list. The names make it easier to determine which variables are included.

What can I do with the scenario? (EX 592)
After the scenario has been saved, you can recall it at any time using Scenario Manager. In Figure 9 – 53, the values of the changing cells in the Scenario Values dialog box default to the current values in the worksheet. By changing the text boxes next to the cell names, you can save the scenario using values different from the current values.
Why am I not updating the constraints? (EX 595)
When you set up the constraints in Solver for inventory1, you used cell references rather than actual numbers for the minimum number of each type of wrap. Entering the new figures in cells B19:B22 automatically updates the constraints.

What did Solver accomplish? (EX 596)
As shown in Figure 9 – 59, Solver found a solution that satisfies all of the constraints and maximizes the number of wraps produced. In this new scenario, inventory will be 1300 total wraps (cell E11), 350 cotton (cell E8), 750 wool (cell E9), and 200 luxury (cell E10).

My number of wraps differs slightly. Why? (EX 596)
The answers shown for the number of the various types of wraps for inventory2 may vary slightly on your computer depending on a number of factors that affect how Solver finds a solution. The maximum number of wraps, 1300, should not vary.

Do I have to use Scenario Manager to switch between scenarios? (EX 600)
Once you have viewed two or more scenarios in a row, you can use the Undo and Redo commands to switch between them, as an alternative to using the Scenario Manager.

How can I use the PivotTable? (EX 605)
After the PivotTable is created, you can treat it like any other worksheet. Thus, you can print or chart a PivotTable. If you update the data in one of the scenarios, click the Refresh All button on the Data tab on the Ribbon to update the PivotTable. If you show a scenario and merely change values on the scenario worksheet, it is not the same as changing the scenario. If you want to change the data in a scenario, you must use Scenario Manager.

Why am I saving this workbook under a different name? (EX 606)
When preparing a workbook for distribution, you may decide to use the Document Inspector to make changes to the document. Saving the workbook with a different name ensures that you will not lose information, and that you will have a copy of the workbook with all information for your records.

What is shown in the Document Inspector dialog box? (EX 607)
The Document Inspector dialog box allows you to choose which types of content to inspect. Unless you are comfortable with some items not being checked, you typically should leave all of the items selected. In Figure 9 – 80, the Document Inspector will search the document properties, which may contain your name. You purposefully want your name or other personal information in the document properties, so you may remove the check mark from the Document Properties and Personal Information check box.

What did the Document Inspector find? (EX 608)
The Document Inspector found document properties, comments in the scenarios created in this chapter, a hidden row in the Scenario PivotTable, and two hidden worksheets. The Remove All buttons in the dialog box allow you quickly to remove the items found. In many instances, you may want to take notes of the results and then investigate and remedy each one separately. In the Rivers Edge Show Inventory Analysis2 workbook, all of these items found by the Document Inspector are expected and do not need to be remedied.

What is shown in the Microsoft Excel - Compatibility Checker dialog box? (EX 609)
The Summary column of the list of issues shows that both the PivotTable and the style used to format the PivotTable are not compatible with previous versions of Excel. While the workbook still will be saved in the Excel 97-2003 file format, the Inventory Scenario PivotTable will not be available as a PivotTable report. In addition, some cell formatting is unique to Excel 2010. These formats will be converted to the nearest approximation in the earlier version of Excel.