MASSEY UNIVERSITY

Formula auditing

Microsoft Excel 2007

MS Excel has several tools to review incorrect formulas or suspect entries, and they help you see why the formula is working incorrectly. The Formula Auditing tool enables you to review your worksheets for errors and identifying cell precedents for a formula cell.

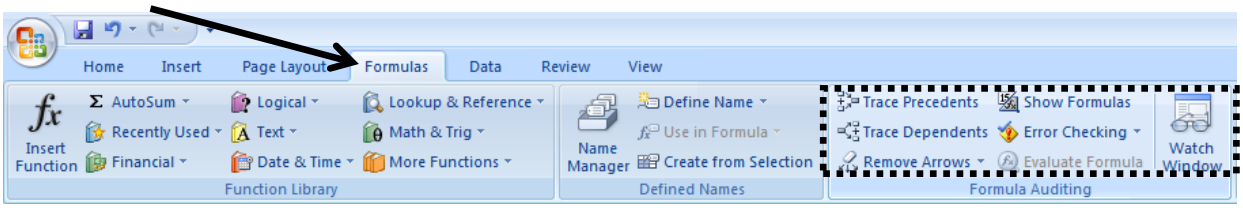
Error messages related to formulas

Excel provides a variety of messages to identify a problem in a formula. However, Excel doesn't always guess correctly.

#DIV/0!	The formula is attempting to divide by zero
#N/A	There is no value in the formula
#NAME?	Excel doesn't recognise the name in the formula
#NULL!	An incorrect cell reference or range operator is used in the formula
#NUM!	There is a problem with a number in the formula
#REF!	A formula refers to a cell that is not valid
#VALUE!	A wrong type of operand or argument is used in the formula
#####	The column is not wide enough, or the cell contains a formula that returns an invalid date or time

Formula auditing

Formula Auditing graphically displays, or traces, the relationships between cells and formulas. Adding tracer arrows lets you visually step through which formulas refer to which cells.



To view the Formula Auditing pane:

- **Formulas** > **Formula Auditing**

Button	Tool name	What it does?
	Error Checking	Check for errors in a formula using a set of rules to find common mistakes and if there is, the Error Checking dialog box is displayed.
	Trace Error	Draw arrow to the cells that might create errors. If the current cell is displaying an error (e.g. #DIV/0!), an arrow will be drawn leading back to the cause of the error.
	Trace Precedents	Draws arrows from all cells that contribute values to the formula result, i.e., active cell (precedents). *You need to select a cell that contains formula. You can click the Trace precedents button one at a time to see how the formula result has been created, i.e., a formula result is sometimes a result of the other formula result (nested).*

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Button	Tool name	What it does?
	Trace Dependents	Draws arrows from the active cell to the formula cells, and shows what other cells use the active cell (dependents). *Visually identifies the cells that depend on the current cell. As with the Precedent button, this can span across a workbook to other workbooks as long as all related workbooks are open. This can be used when deleting cells to ensure that the cell is not used elsewhere in the spreadsheet.*
	Remove All Arrows	Remove all tracer arrows (both precedent and dependent arrows) at once.
	Remove Precedent Arrows	Remove one level of precedent tracer at a time.
	Remove Dependent Arrows	Remove one level of dependency tracer at a time.
	Evaluate Formula	Display a dialogue box that will help to evaluate and clarify the formula. (Tools > Formula Auditing > Evaluate Formula)
Watch Window	Show Watch Window	Displays the Watch Window. You can keep track of cell values and formulas, even when they are out of view, for example in a large worksheet, in a different worksheet or workbook, if it is open.

Data Validation

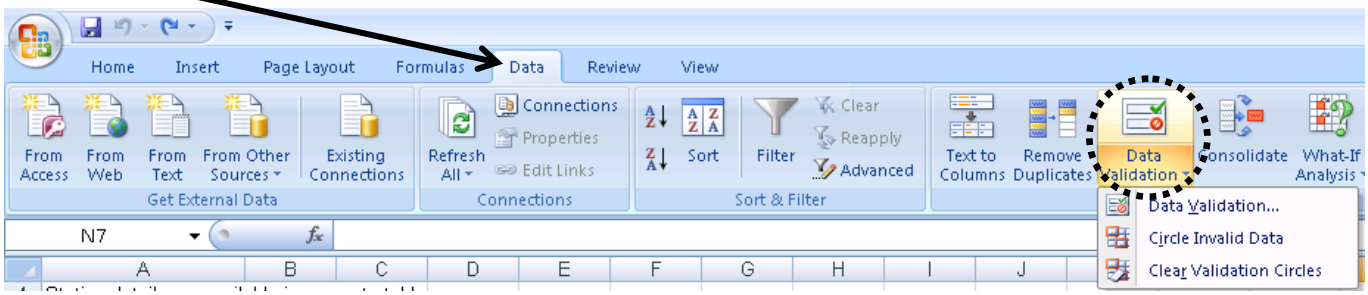
Data validation allows you control the type of information that is entered into selected cells, data validation allows you to:

- Provide a list of choices for users to choose from.
- Restrict data entries to a specific type or size

Note: Data validation is not foolproof. It can be overwritten by clearing the formatting or pasting data over the cell

To view the Data Validation Menu:

- **Data** > **Data Validation**



Button	Tool name	What it does?
	Data Validation	Allows you to specify the type of data that can be entered in a cell or specify a list that the user can choose from
	Circle Invalid Data	Draws red circles around any cells which are incorrect entries outside of the limits set by using the Data Validation rules. Although the validation rules prevent you from typing an illegal value into a cell, a formula may produce an exceptional value. *For example, if all values in a range must be less than 50, a total of several other values may break the rule.*
	Clear Validation Circles	Remove validation circles