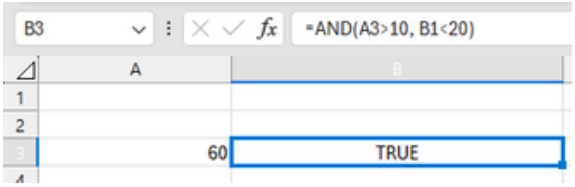
AND: Is used to evaluate multiple conditions. It returns TRUE if all the conditions are true, and FALSE if any of the conditions are false..

Formula: `=AND(A1>10, B1<20)`

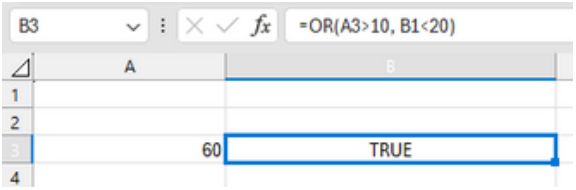
- Returns TRUE if A1 is greater than 10 and B1 is less than 20, otherwise returns FALSE.



OR: is used to test multiple conditions and returns TRUE if any of the conditions are true, and FALSE if none of the conditions are true.

Formula: `=OR(A1>10, B1<20)`

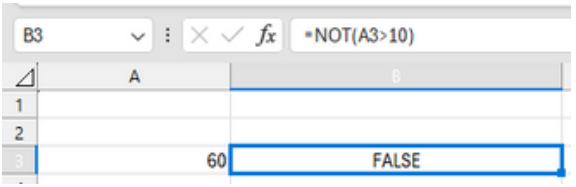
- Returns TRUE if either A1 is greater than 10 or B1 is less than 20.



NOT: is used to reverse a logical value. If the value is TRUE, it returns FALSE, and if the value is FALSE, it returns TRUE.

Formula: `=NOT(A1>10)`

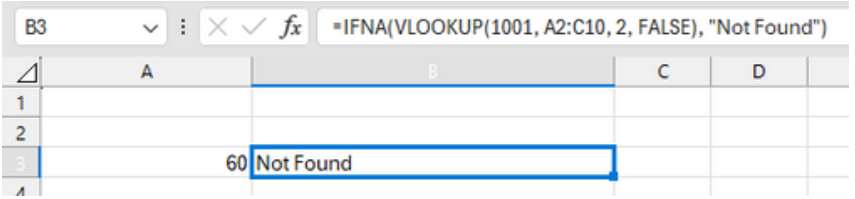
- Returns FALSE if A1 is greater than 10, otherwise returns TRUE.



IFNA: Is used to return a custom result if a formula results in an #N/A error, and the result of the formula otherwise.

Formula: `=IFNA(VLOOKUP(1001, A2:C10, 2, FALSE), "Not Found")`

- Returns "Not Found" if the VLOOKUP function returns #N/A, otherwise returns the lookup result.

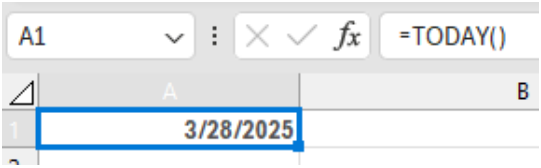


Date and Time Functions

TODAY: Returns the current date based on your system's date.

Formula: `=TODAY()`

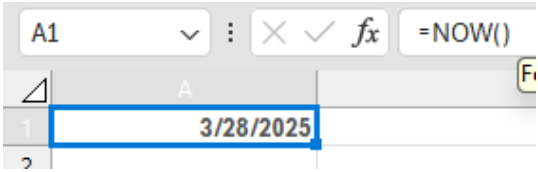
- Returns the current date, e.g., 03/19/2025.



NOW: Returns the current date and time based on your system's clock.

Formula: `=NOW()`

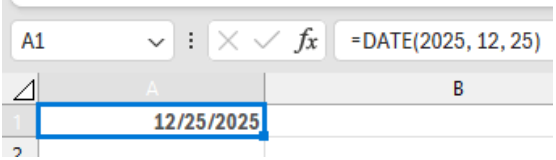
- Returns the current date and time, e.g., 03/19/2025 17:45.



DATE: Returns a date based on the year, month, and day you provide.

Formula: `=DATE(2025, 12, 25)`

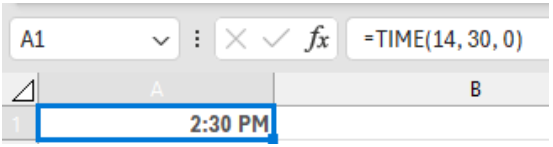
- Returns 12/25/2025.



TIME: Returns a time value based on the hour, minute, and second that you provide.

Formula: `=TIME(14, 30, 0)`

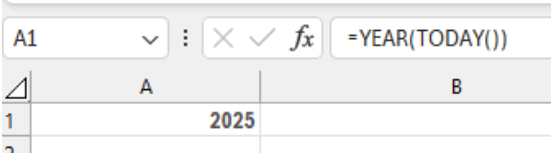
- Returns 2:30 PM.



YEAR: Extracts the year from a given date.

Formula: `=YEAR(TODAY())`

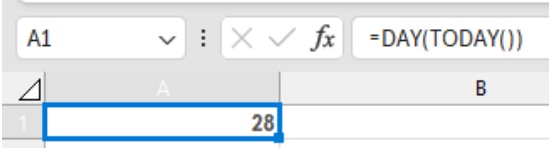
- Returns 2025.



DAY: Extracts the day of the month from a given date.

Formula: `=DAY(TODAY())`

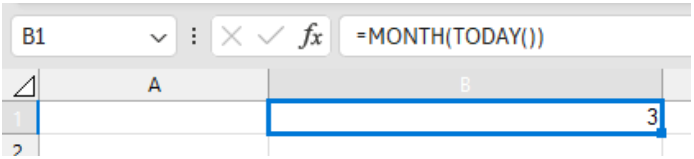
- Returns 19 if the current date is March 19.



MONTH: Returns the month of a given date as a number, from 1 (January) to 12 (December).

Formula: `=MONTH(TODAY())`

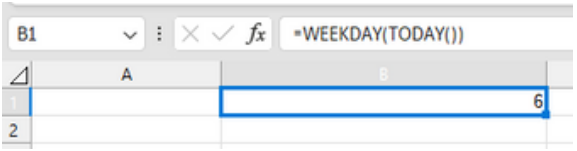
- Returns 3 if the current date is in March.



WEEKDAY: Returns the day of the week for a given date as a number, where you can specify which numbering system you prefer.

Formula: `=WEEKDAY(TODAY())`

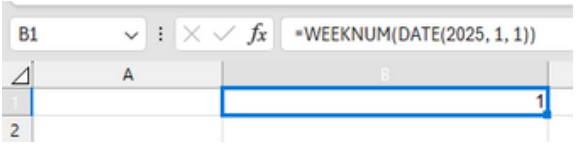
- Returns 4 if today is Wednesday.



WEEKNUM: Returns the week number of a given date within the year.

Formula: `=WEEKNUM(DATE(2025, 1, 1))`

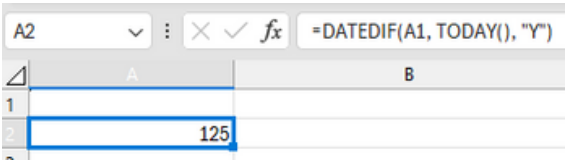
- Returns 4 if today is Wednesday.



DATEDIF: Calculates the difference between two dates in years, months, or days.

Formula: `=DATEDIF(A1, TODAY(), "Y")`

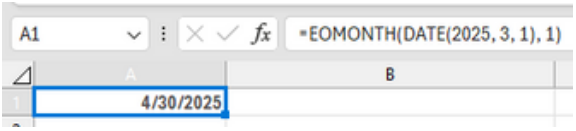
- **Output:** 25 (if the birthdate in A1 is 25 years ago).



EOMONTH: Returns the last day of the month that is a specified number of months before or after a given start date.

Formula: `=EOMONTH(DATE(2025, 3, 1), 1)`

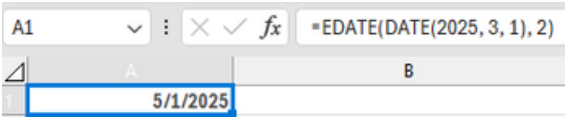
- Returns 04/30/2025.



EDATE: Returns the date that is a specified number of months before or after a given start date.

Formula: `=EDATE(DATE(2025, 3, 1), 2)`

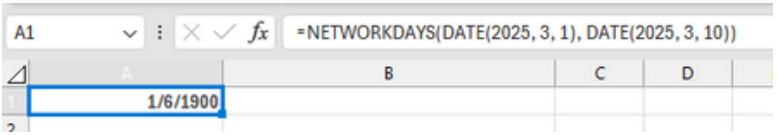
- Returns 05/01/2025.



NETWORKDAYS: Calculates the number of working days (weekdays) between two dates, excluding weekends (Saturday and Sunday) and any specified holidays.

Formula: `=NETWORKDAYS(DATE(2025, 3, 1), DATE(2025, 3, 10))`

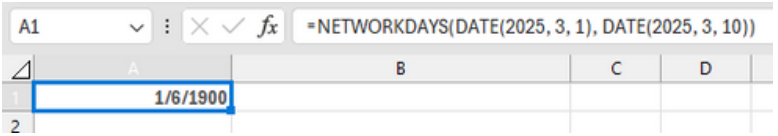
- Returns 7 (excluding weekends).



NETWORKDAYS.INTL: Calculates the number of working days between two dates, excluding weekends and optionally holidays.

Formula: `=NETWORKDAYS.INTL(DATE(2025, 3, 1), DATE(2025, 3, 10), 1)`

- Returns 7, considering the default weekend (Saturday and Sunday).

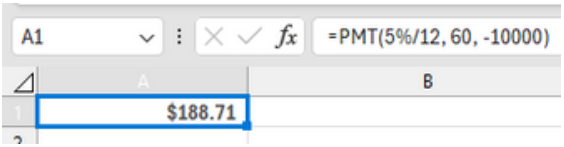


Financial Functions

PMT: Calculates the payment for a loan or an investment based on constant payments and a constant interest rate.

Formula: `=PMT(5%/12, 60, -10000)`

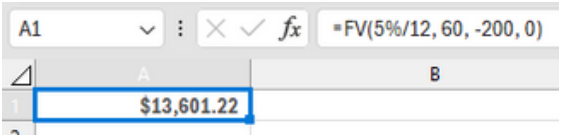
- Returns the monthly payment for a loan of $10,000 with a 5% annual interest rate over 60 months.



FV: Calculates the future value of an investment or loan based on constant payments, a constant interest rate, and the number of periods.

Formula: `=FV(5%/12, 60, -200, 0)`

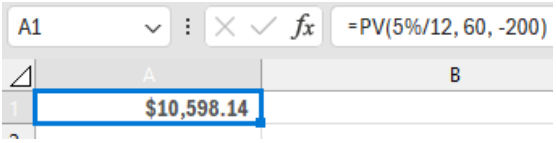
- Returns the future value of monthly deposits of $200 for 60 months at a 5% annual interest rate.



PV

Formula: `=PV(5%/12, 60, -200)`

- Returns the present value of monthly payments of $200 over 60 months at a 5% annual interest rate.



NPV: Calculates the present value of a series of cash flows, discounted at a specific rate.

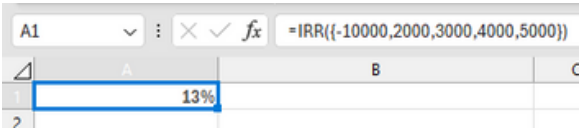
Formula: `=NPV(0.08, -10000, 2000, 3000, 4000, 5000)`

- Returns the net present value for an initial investment of $10,000 with cash inflows over 4 years.

IRR: Calculates the rate of return at which the net present value (NPV) of a series of cash flows equals zero.

Formula: `=IRR({-10000, 2000, 3000, 4000, 5000})`

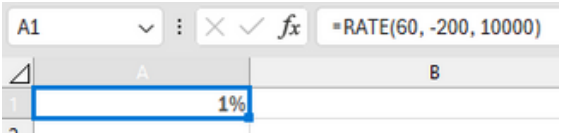
- Returns the internal rate of return for the given cash flows.



RATE: Calculates the interest rate for a loan or investment based on constant payments and a constant interest rate.

Formula: `=RATE(60, -200, 10000)`

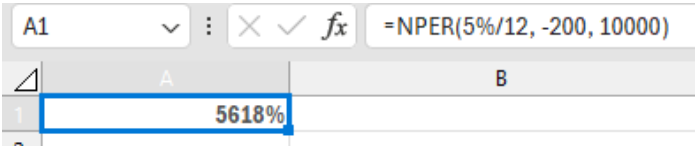
- Returns the monthly interest rate for a loan with payments of $200 over 60 months.



NPER

Formula: `=NPER(5%/12, -200, 10000)`

- Returns the number of months needed to pay off a loan of $10,000 at 5% annual interest with monthly payments of $200.

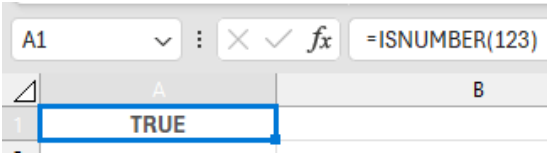


Information Functions

ISNUMBER: Calculates the interest rate for a loan or investment based on constant payments and a constant interest rate.

Formula: `=ISNUMBER(123)`

- Returns TRUE.



ISBLANK: Checks if a cell is empty (i.e., contains no data) and returns TRUE if the cell is empty and FALSE if it contains any data

Formula: `=ISBLANK(A1)`

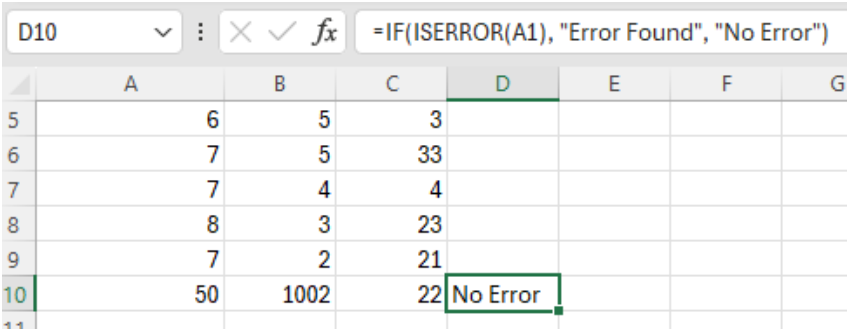
- Returns TRUE if A1 is empty.

1	1001	7	24	
2	1002	1002	12	
3	5	6	2	
4	7	6	3	
5	6	5	3	
6	7	5	33	
7	7	4	4	
8	8	3	23	
9	7	2	21	
10	50	1002	22	FALSE

ISERROR: Checks if a cell contains an error and returns TRUE if it does, otherwise FALSE.

Formula: `=IF(ISERROR(A1), "Error Found", "No Error")`

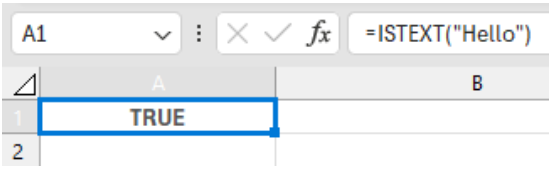
- Returns "Error Found" if A1 contains an error, otherwise "No Error".



ISTEXT: Checks if a given value is a text string and returns TRUE if it is, and FALSE if it is not.

Formula: `=ISTEXT("Hello")`

- Returns TRUE.

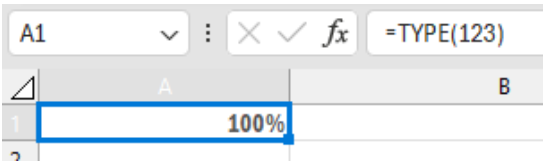


TYPE: Returns a number indicating the data type of the value.

Formula: `=TYPE(123)`

Return Types:

- 1 – Number
- 2 – Text
- 4 – Logical value
- 16 – Error
- 64 – Array

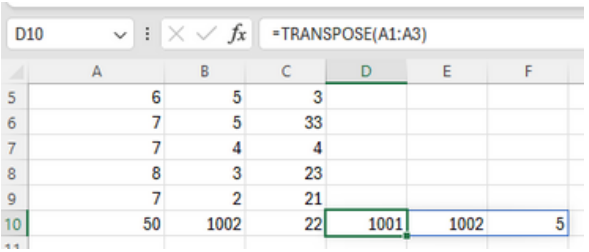


Array Formulas

TRANSPOSE: Function changes the orientation of a range of cells – it converts rows to columns and columns to rows.

Formula: `=TRANSPOSE(A1:A3)`

- Converts a vertical range (A1 to A3) into a horizontal range.

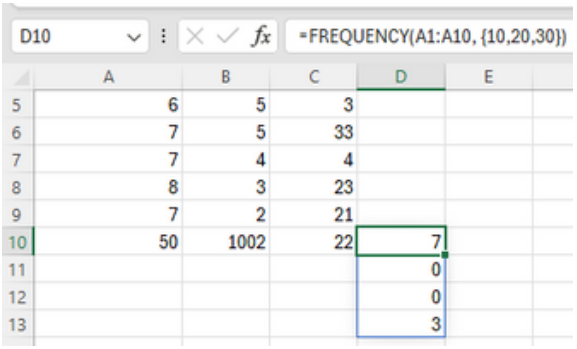


	A	B	C	D	E	F
5	6	5	3			
6	7	5	33			
7	7	4	4			
8	8	3	23			
9	7	2	21			
10	50	1002	22	1001	1002	5

FREQUENCY: Calculates how often values occur within a range of values (called "bins"), and returns a vertical array of numbers that represent the frequency of values falling into each bin.

Formula: `=FREQUENCY(A1:A10, {10, 20, 30})`

- Counts how many values fall into the ranges 0-10, 11-20, and 21-30.

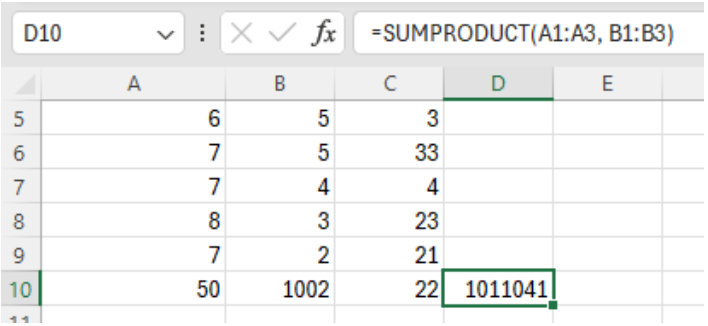


	A	B	C	D	E
5	6	5	3		
6	7	5	33		
7	7	4	4		
8	8	3	23		
9	7	2	21		
10	50	1002	22	7	
11				0	
12				0	
13				3	

SUMPRODUCT: Multiplies corresponding elements in given arrays and then returns the sum of those products.

Formula: `=SUMPRODUCT(A1:A3, B1:B3)`

- Multiplies corresponding values in A1:A3 and B1:B3, then sums the results.

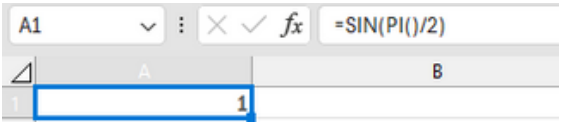


Math & Trigonometry Functions

SIN: Returns the sine of an angle given in radians.

Formula: `=SIN(PI()/2)`

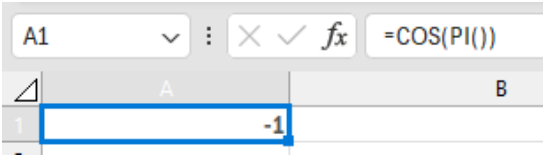
- Returns 1.



COS: Returns the cosine of an angle given in radians.

Formula: `=COS(PI())`

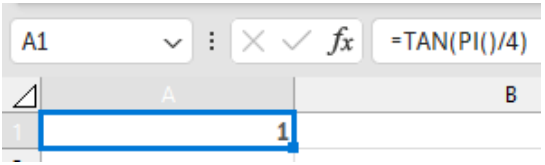
- Returns -1.



TAN: Returns the tangent of an angle given in radians.

Formula: `=TAN(PI()/4)`

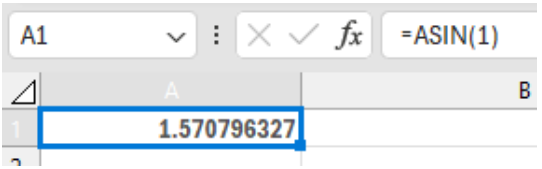
- Returns 1.



ASIN: Returns the arc sine of a number, in radians.

Formula: `=ASIN(1)`

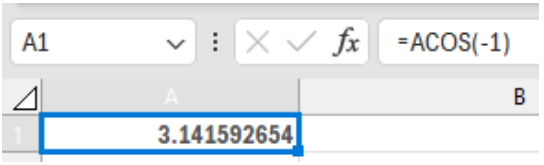
- Returns PI()/2.



ACOS: Returns the arc cosine (inverse of the cosine) of a number, in radians.

Formula: `=ACOS(-1)`

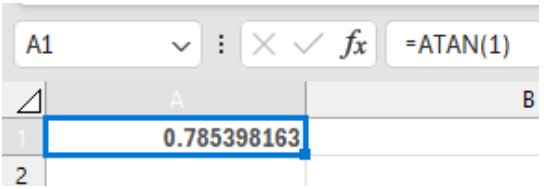
- Returns PI().



ATAN: Returns the arc tangent of a number, in radians.

Formula: `=ATAN(1)`

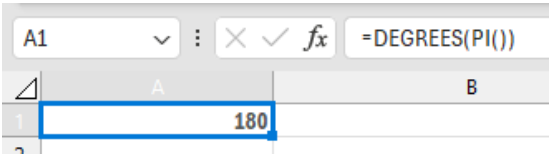
- Returns PI()/4.



DEGREES: Converts an angle from radians to degrees.

Formula: `=DEGREES(PI())`

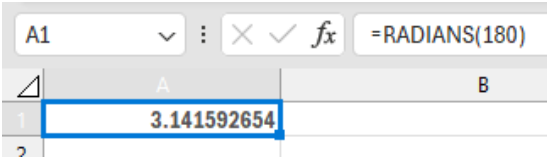
- Returns 180.



RADIANS: Converts an angle from degrees to radians.

Formula: `=RADIANS(180)`

- Returns PI()..

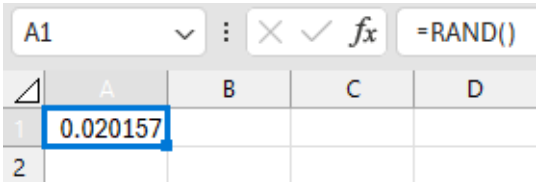


Other Functions

RAND: Returns a random decimal number between 0 and 1.

Formula: `=RAND()`

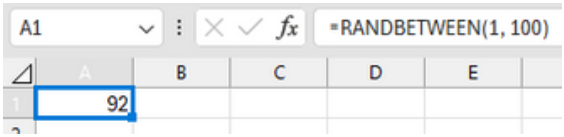
- Returns "1234.57" (rounded to two decimal places).



RANDBETWEEN: Returns a random integer between two specified values.

Formula: `=RANDBETWEEN(1, 100)`

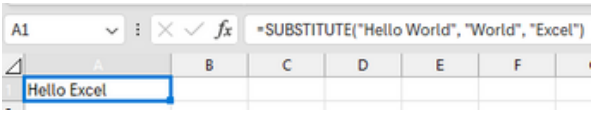
- Returns a random integer between 1 and 100.



SUBSTITUTE: Replaces specific text in a string.

Formula: `=SUBSTITUTE("Hello World", "World", "Excel")`

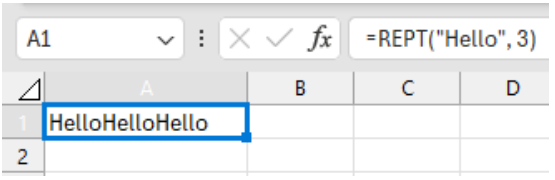
- Returns a random decimal value like 0.5674.



REPT: Repeats a text string a specified number of times.

Formula: `=REPT("Hello", 3)`

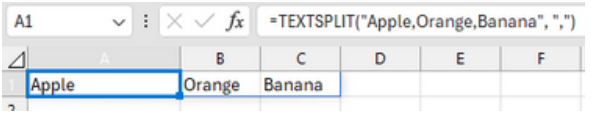
- Returns HelloHelloHello.



TEXTSPLIT: Splits text into multiple cells based on a specified delimiter.

Formula: `=TEXTSPLIT("Apple,Orange,Banana", ",")`

- If A1 contains =SUM(B1:B5), it returns =SUM(B1:B5).



Excel Shortcuts

Alt + F1	*Creates a chart based on the selected data.*
Ctrl + 6	*Toggles the visibility of objects like charts and shapes in your worksheet.*
Ctrl + F2	*Opens the Print Preview window.*
Alt + H + H	*Opens the Fill Color dialog box to change cell color.*
Alt + A + M	*Merge and Center selected cells.*
Ctrl + D	*Fills the selected cells with the contents of the cell above.*
Ctrl + C	*Copies the selected cells or data.*
Ctrl + Enter	*Fills the selected cells with the same value or formula.*
Alt + =	*Inserts the **SUM()** function automatically, summing a selected range of cells.*
Ctrl + Pageup	*Moves to the previous worksheet in the workbook.*
Ctrl + Pagedown	*Moves to the next worksheet in the workbook.*
Alt + Q	*Opens the Quick Analysis tool to analyze your data.*