

## Alphabetical Listing of Worksheet Functions

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| ABS        | Returns the absolute value of a number  |
| ACCRINT    | Returns the accrued interest for a security that pays interest on a periodic basis          |
| ACCRINTM   | Returns the accrued interest for a security that pays interest at maturity                  |
| ACOS       | Returns the arccosine (in radians) of a number  |
| ACOSH      | Returns the inverse hyperbolic cosine of a number   |
| ADDRESS    | Returns a text representation of a cell address   |
| AGGREGATE  | Apply functions such AVERAGE, SUM, COUNT, MAX or MIN and ignore errors or hidden rows       |
| AMORDEGRC  | Returns the linear depreciation of an asset for each accounting period, on a prorated basis |
| AMORLINC   | Returns the depreciation of an asset for each accounting period, on a prorated basis        |
| AND        | Returns TRUE if all conditions are TRUE   |
| AREAS      | Returns the number of ranges in a reference   |
| ASIN       | Returns the arcsine (in radians) of a number  |
| ASINH      | Returns the inverse hyperbolic sine of a number   |
| ATAN       | Returns the arctangent (in radians) of a number   |
| ATAN2      | Returns the arctangent (in radians) of (x,y) coordinates                                    |
| ATANH      | Returns the inverse hyperbolic tangent of a number  |
| AVEDEV     | Returns the average of the absolute deviations of the numbers provided                      |
| AVERAGE    | Returns the average of the numbers provided   |
| AVERAGEA   | Returns the average of the numbers provided and treats TRUE as 1 and FALSE as 0             |
| AVERAGEIF  | Returns the average of all numbers in a range of cells, based on a given criteria           |
| AVERAGEIFS | Returns the average of all numbers in a range of cells, based on multiple criteria          |
| BETA.DIST  | Returns the beta distribution   |
| BETA.INV   | Returns the inverse of the cumulative beta probability density function                     |
| BETADIST   | Returns the cumulative beta probability density function                                    |
| BETAINV    | Returns the inverse of the cumulative beta probability density function                     |
| BIN2DEC    | Converts a binary number to a decimal number  |
| BIN2HEX    | Converts a binary number to a hexadecimal number  |
| BIN2OCT    | Converts a binary number to an octal number   |
| BINOM.DIST | Returns the individual term binomial distribution probability                               |

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| BINOM.INV       | Returns the smallest value for which the cumulative binomial distribution is greater than or equal to a criterion |
| BINOMDIST       | Returns the individual term binomial distribution probability   |
| CEILING         | Returns a number rounded up based on a multiple of significance   |
| CEILING.PRECISE | Returns a number rounded up to the nearest integer or to the nearest multiple of significance                     |
| CELL            | Used to retrieve information about a cell such as contents, formatting, size, etc.                                |
| CHAR            | Returns the character based on the ASCII value  |
| CHIDIST         | Returns the one-tailed probability of the chi-squared distribution  |
| CHIINV          | Returns the inverse of the one-tailed probability of the chi-squared distribution                                 |
| CHITEST         | Returns the value from the chi-squared distribution   |
| CHOOSE          | Returns a value from a list of values based on a given position   |
| CLEAN           | Removes all nonprintable characters from a string   |
| CODE            | Returns the ASCII value of a character or the first character in a cell   |
| COLUMN          | Returns the column number of a cell reference   |
| COLUMNS         | Returns the number of columns in a cell reference   |
| COMBIN          | Returns the number of combinations for a specified number of items  |
| COMBINA         | Returns the number of combinations for a specified number of items and includes repetitions                       |
| COMPLEX         | Converts coefficients (real and imaginary) into a complex number  |
| CONCAT          | Used to join 2 or more strings together   |
| CONCATENATE     | Used to join 2 or more strings together (replaced by CONCAT Function)   |
| CONVERT         | Convert a number from one measurement unit to another measurement unit  |
| COS             | Returns the cosine of an angle  |
| COSH            | Returns the hyperbolic cosine of a number   |
| COUNT           | Counts the number of cells that contain numbers as well as the number of arguments that contain numbers           |
| COUNTA          | Counts the number of cells that are not empty as well as the number of value arguments provided                   |
| COUNTBLANK      | Counts the number of empty cells in a range   |
| COUNTIF         | Counts the number of cells in a range, that meets a given criteria  |
| COUNTIFS        | Counts the number of cells in a range, that meets a single or multiple criteria                                   |
| COVAR           | Returns the covariance, the average of the products of deviations for two data sets                               |
| DATE            | Returns the serial date value for a date  |

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| DATEDIF    | Returns the difference between two date values, based on the interval specified                              |
| DATEVALUE  | Returns the serial number of a date  |
| DAVERAGE   | Averages all numbers in a column in a list or database, based on a given criteria                            |
| DAY        | Returns the day of the month (a number from 1 to 31) given a date value                                      |
| DAYS       | Returns the number of days between 2 dates   |
| DAYS360    | Returns the number of days between two dates based on a 360-day year   |
| DB         | Returns the depreciation of an asset based on the fixed-declining balance method                             |
| DCOUNT     | Returns the number of cells in a column or database that contains numeric values and meets a given criteria  |
| DCOUNTA    | Returns the number of cells in a column or database that contains nonblank values and meets a given criteria |
| DDB        | Returns the depreciation of an asset based on the double-declining balance method                            |
| DEGREES    | Converts radians into degrees  |
| DGET       | Retrieves from a database a single record that matches a given criteria                                      |
| DMAX       | Returns the largest number in a column in a list or database, based on a given criteria                      |
| DMIN       | Returns the smallest number in a column in a list or database, based on a given criteria                     |
| DOLLAR     | Converts a number to text, using a currency format   |
| DPRODUCT   | Returns the product of the numbers in a column in a list or database, based on a given criteria              |
| DSTDEV     | Returns the standard deviation of a population based on a sample of numbers                                  |
| DSTDEVP    | Returns the standard deviation of a population based on the entire population of numbers                     |
| DSUM       | Sums the numbers in a column or database that meets a given criteria   |
| DVAR       | Returns the variance of a population based on a sample of numbers  |
| DVARP      | Returns the variance of a population based on the entire population of numbers                               |
| EDATE      | Adds a specified number of months to a date and returns the result as a serial date                          |
| EOMONTH    | Calculates the last day of the month after adding a specified number of months to a date                     |
| ERROR.TYPE | Returns the numeric representation of an Excel error   |
| EVEN       | Rounds a number up to the nearest even integer   |
| EXACT      | Compares two strings and returns TRUE if both values are the same  |

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| EXP       | Returns e raised to the nth power  |
| FACT      | Returns the factorial of a number  |
| FALSE     | Returns a logical value of FALSE   |
| FIND      | Returns the location of a substring in a string (case-sensitive)   |
| FIXED     | Returns a text representation of a number rounded to a specified number of decimal places  |
| FLOOR     | Returns a number rounded down based on a multiple of significance  |
| FORECAST  | Returns a prediction of a future value based on existing values provided   |
| FREQUENCY | Returns how often values occur within a set of data. It returns a vertical array of numbers  |
| FV        | Returns the future value of an investment  |
| GROWTH    | Returns the predicted exponential growth based on existing values provided   |
| HLOOKUP   | Performs a horizontal lookup by searching for a value in the top row of the table and returning the value in the same column based on the index_number |
| HOUR      | Returns the hours (a number from 0 to 23) from a time value  |
| HYPERLINK | Creates a shortcut to a file or Internet address   |
| IF        | Returns one value if the condition is TRUE or another value if the condition is FALSE  |
| IFERROR   | Used to return an alternate value if a formula results in an error   |
| IFNA      | Used to return an alternate value if a formula results in #N/A error   |
| IFS       | Specify multiple IF conditions within 1 function   |
| INDEX     | Returns either the value or the reference to a value from a table or range   |
| INDIRECT  | Returns the reference to a cell based on its string representation   |
| INFO      | Returns information about the operating environment  |
| INT       | Returns the integer portion of a number  |
| INTERCEPT | Returns the y-axis intersection point of a line using x-axis values and y-axis values  |
| IPMT      | Returns the interest payment for an investment   |
| IRR       | Returns the internal rate of return for a series of cash flows   |
| ISBLANK   | Used to check for blank or null values   |
| ISERR     | Used to check for error values except #N/A   |
| ISERROR   | Used to check for error values   |
| ISLOGICAL | Used to check for a logical value (TRUE or FALSE)  |
| ISNA      | Used to check for #N/A error   |
| ISNONTEXT | Used to check for a value that is not text   |

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| ISNUMBER   | Used to check for a numeric value   |
| ISOWEEKNUM | Returns the ISO week number for a date  |
| ISPMT      | Returns the interest payment for an investment  |
| ISREF      | Used to check for a reference   |
| ISTEXT     | Used to check for a text value  |
| LARGE      | Returns the nth largest value from a set of values  |
| LEFT       | Extract a substring from a string, starting from the left-most character  |
| LEN        | Returns the length of the specified string  |
| LINEST     | Uses the least squares method to calculate the statistics for a straight line and returns an array describing that line |
| LN         | Returns the natural logarithm of a number   |
| LOG        | Returns the logarithm of a number to a specified base   |
| LOG10      | Returns the base-10 logarithm of a number   |
| LOOKUP     | Returns a value from a range (one row or one column) or from an array   |
| LOWER      | Converts all letters in the specified string to lowercase   |
| MATCH      | Searches for a value in an array and returns the relative position of that item   |
| MAX        | Returns the largest value from the numbers provided   |
| MAXA       | Returns the largest value from the values provided (numbers, text and logical values)                                   |
| MDETERM    | Returns the matrix determinant of an array  |
| MEDIAN     | Returns the median of the numbers provided  |
| MID        | Extracts a substring from a string (starting at any position)   |
| MIN        | Returns the smallest value from the numbers provided  |
| MINA       | Returns the smallest value from the values provided (numbers, text and logical values)                                  |
| MINUTE     | Returns the minutes (a number from 0 to 59) from a time value   |
| MINVERSE   | Returns the inverse matrix for a given matrix   |
| MIRR       | Returns the modified internal rate of return for a series of cash flows   |
| MMULT      | Returns the matrix product of two arrays  |
| MOD        | Returns the remainder after a number is divided by a divisor  |
| MODE       | Returns most frequently occurring number  |
| MODE.MULT  | Returns a vertical array of the most frequently occurring numbers   |
| MODE.SNGL  | Returns most frequently occurring number  |
| MONTH      | Returns the month (a number from 1 to 12) given a date value  |
| N          | Converts a value to a number  |

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| NA               | Returns the #N/A error value   |
| NETWORKDAYS      | Returns the number of work days between 2 dates, excluding weekends and holidays |
| NETWORKDAYS.INTL | Returns the number of work days between 2 dates, excluding weekends and holidays |
| NOT              | Returns the reversed logical value   |
| NOW              | Returns the current system date and time   |
| NPER             | Returns the number of periods for an investment                                  |
| NPV              | Returns the net present value of an investment                                   |
| ODD              | Rounds a number up to the nearest odd integer                                    |
| OFFSET           | Returns a reference to a range that is offset a number of rows and columns       |
| OR               | Returns TRUE if any of the conditions are TRUE                                   |
| PERCENTILE       | Returns the nth percentile from a set of values                                  |
| PERCENTRANK      | Returns the nth percentile from a set of values                                  |
| PERMUT           | Returns the number of permutations for a specified number of items               |
| PI               | Returns the mathematical constant called pi                                      |
| PMT              | Returns the payment amount for a loan  |
| POWER            | Returns the result of a number raised to a given power                           |
| PPMT             | Returns the payment on the principal for a particular payment                    |
| PRODUCT          | Multiplies the numbers and returns the product                                   |
| PROPER           | Sets the first character in each word to uppercase and the rest to lowercase     |
| PV               | Returns the present value of an investment                                       |
| QUARTILE         | Returns the quartile from a set of values  |
| RADIANS          | Converts degrees into radians  |
| RAND             | Returns a random number that is greater than or equal to 0 and less than 1       |
| RANDBETWEEN      | Returns a random number that is between a bottom and top range                   |
| RANK             | Returns the rank of a number within a set of numbers                             |
| RATE             | Returns the interest rate for an annuity   |
| REPLACE          | Replaces a sequence of characters in a string with another set of characters     |
| REPT             | Returns a repeated text value a specified number of times                        |
| RIGHT            | Extracts a substring from a string starting from the right-most character        |
| ROMAN            | Converts a number to roman numeral   |
| ROUND            | Returns a number rounded to a specified number of digits                         |
| ROUNDDOWN        | Returns a number rounded down to a specified number of digits                    |

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| ROUNDUP    | Returns a number rounded up to a specified number of digits   |
| ROW        | Returns the row number of a cell reference  |
| ROWS       | Returns the number of rows in a cell reference  |
| SEARCH     | Returns the location of a substring in a string   |
| SECOND     | Returns the seconds (a number from 0 to 59) from a time value   |
| SIGN       | Returns the sign of a number  |
| SIN        | Returns the sine of an angle  |
| SINH       | Returns the hyperbolic sine of a number   |
| SLN        | Returns the depreciation of an asset based on the straight-line depreciation method                               |
| SLOPE      | Returns the slope of a regression line based on the data points identified by known_y_values and known_x_values   |
| SMALL      | Returns the nth smallest value from a set of values   |
| SQRT       | Returns the square root of a number   |
| STDEV      | Returns the standard deviation of a population based on a sample of numbers                                       |
| STDEVA     | Returns the standard deviation of a population based on a sample of numbers, text, and logical values             |
| STDEVP     | Returns the standard deviation of a population based on an entire population of numbers                           |
| STDEVPA    | Returns the standard deviation of a population based on an entire population of numbers, text, and logical values |
| SUBSTITUTE | Replaces a set of characters with another   |
| SUBTOTAL   | Returns the subtotal of the numbers in a column in a list or database   |
| SUM        | Adds all numbers in a range of cells  |
| SUMIF      | Adds all numbers in a range of cells based on one criteria  |
| SUMIFS     | Adds all numbers in a range of cells, based on a single or multiple criteria                                      |
| SUMPRODUCT | Multiplies the corresponding items in the arrays and returns the sum of the results                               |
| SUMSQ      | Returns the sum of the squares of a series of values  |
| SUMX2MY2   | Returns the sum of the difference of squares between two arrays   |
| SUMX2PY2   | Returns the sum of the squares of corresponding items in the arrays   |
| SUMXMY2    | Returns the sum of the squares of the differences between corresponding items in the arrays                       |
| SWITCH     | Compares an expression to a list of values and returns the corresponding result                                   |
| SYD        | Returns the depreciation of an asset based on the sum-of-years' digits depreciation method                        |

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| T            | Returns the text referred to by a value   |
| TAN          | Returns the tangent of an angle   |
| TANH         | Returns the hyperbolic tangent of a number  |
| TEXT         | Returns a value converted to text with a specified format   |
| TEXTJOIN     | Used to join 2 or more strings together separated by a delimiter  |
| TIME         | Returns a decimal number given an hour, minute and second value   |
| TIMEVALUE    | Returns the serial number of a time   |
| TODAY        | Returns the current system date   |
| TRANSPOSE    | Returns a transposed range of cells   |
| TRIM         | Returns a text value with the leading and trailing spaces removed   |
| TRUE         | Returns a logical value of TRUE   |
| TRUNC        | Returns a number truncated to a specified number of digits  |
| TYPE         | Returns the type of a value   |
| UPPER        | Convert text to all uppercase   |
| VALUE        | Converts a text value that represents a number to a number  |
| VAR          | Returns the variance of a population based on a sample of numbers   |
| VARA         | Returns the variance of a population based on a sample of numbers, text, and logical values   |
| VARP         | Returns the variance of a population based on an entire population of numbers   |
| VARPA        | Returns the variance of a population based on an entire population of numbers, text, and logical values   |
| VDB          | Returns the depreciation of an asset based on a variable declining balance depreciation method  |
| VLOOKUP      | Performs a vertical lookup by searching for a value in the first column of a table and returning the value in the same row in the index_number position |
| WEEKDAY      | Returns a number representing the day of the week, given a date value   |
| WEEKNUM      | Returns the week number for a date  |
| WORKDAY      | Adds a specified number of work days to a date and returns the result as a serial date  |
| WORKDAY.INTL | Adds a specified number of work days to a date and returns the result as a serial date (customizable weekends)  |
| XIRR         | Returns the internal rate of return for a series of cash flows that may not be periodic   |
| YEAR         | Returns a four-digit year (a number from 1900 to 9999) given a date value   |
| YEARFRAC     | Returns the number of days between 2 dates as a year fraction   |