Advanced Excel – Complete Formula Sheet

Text Formulas

1. PROPER

- **Purpose**: Converts the first letter of each word to uppercase and all other letters to lowercase.
- **Syntax**: =PROPER(text)
- **Example**: =PROPER("hello world")
  Result: Hello World

2. CONCATENATE

- **Purpose**: Joins two or more text strings into one.
- **Syntax**: =CONCATENATE(text1, text2, …)
- **Example**: =CONCATENATE("Hello", " ", "World")
  Result: Hello World

3. LEN

- **Purpose**: Returns the number of characters in a string.
- **Syntax**: =LEN(text)
- **Example**: =LEN("Excel")
  Result: 5

4. UPPER

- **Purpose**: Converts all letters in a text string to uppercase.
- **Syntax**: =UPPER(text)
- **Example**: =UPPER("hello world")
  Result: HELLO WORLD

5. LOWER

- **Purpose**: Converts all letters in a text string to lowercase.
- **Syntax**: =LOWER(text)
- **Example**: =LOWER("HELLO WORLD")
  Result: hello world

6. FIND

- **Purpose**: Finds the position of a substring within a text string (case-sensitive).
- **Syntax**: =FIND(find_text, within_text, [start_num])
- **Example**: =FIND("world", "Hello world")
  Result: 7 (position of "world")

7. REPLACE

- **Purpose**: Replaces part of a text string with another text string.
- **Syntax**: =REPLACE(old_text, start_num, num_chars, new_text)

- **Example**: =REPLACE("Hello World", 7, 5, "Excel")
  Result: Hello Excel

8. DOLLAR

- **Purpose**: Converts a number to a text representation with a currency symbol.
- **Syntax**: =DOLLAR(number, [decimals])
- **Example**: =DOLLAR(1500)
  Result: $1,500.00

9. LEFT

- **Purpose**: Returns a specified number of characters from the left side of a text string.
- **Syntax**: =LEFT(text, [num_chars])
- **Example**: =LEFT("Excel", 2)
  Result: Ex

10. RIGHT

- **Purpose**: Returns a specified number of characters from the right side of a text string.
- **Syntax**: =RIGHT(text, [num_chars])
- **Example**: =RIGHT("Excel", 3)
  Result: cel

11. SUBSTITUTE

- **Purpose**: Replaces occurrences of a specific substring with another substring.
- **Syntax**: =SUBSTITUTE(text, old_text, new_text, [instance_num])
- **Example**: =SUBSTITUTE("Hello World", "World", "Excel")
  Result: Hello Excel

12. TRIM

- **Purpose**: Removes extra spaces from a text string (except for single spaces between words).
- **Syntax**: =TRIM(text)
- **Example**: =TRIM(" Hello World ")
  Result: Hello World

13. TEXT

- **Purpose**: Formats a number and converts it into text with a specified format.
- **Syntax**: =TEXT(value, format_text)
- **Example**: =TEXT(1234.56, "$#,##0.00")
  Result: $1,234.56

14. SEARCH

- **Purpose**: Finds the position of a substring within a text string (case-insensitive).
- **Syntax**: =SEARCH(find_text, within_text, [start_num])
- **Example**: =SEARCH("world", "Hello World")
  Result: 7

15. REPT

- **Purpose**: Repeats a text string a specified number of times.
- **Syntax**: =REPT(text, number_times)
- **Example**: =REPT("Hi ", 3)
  Result: Hi Hi Hi

16. CODE

- **Purpose**: Returns the ASCII value of the first character in a text string.
- **Syntax**: =CODE(text)
- **Example**: =CODE("A")
  Result: 65

Date/Time Formulas

17. DATE

- **Purpose**: Returns the date based on the year, month, and day provided.
- **Syntax**: =DATE(year, month, day)
- **Example**: =DATE(2025, 5, 8)
  Result: 08-May-2025

18. TIME

- **Purpose**: Returns the time based on the hours, minutes, and seconds provided.
- **Syntax**: =TIME(hour, minute, second)
- **Example**: =TIME(14, 30, 0)
  Result: 14:30:00

19. TODAY

- **Purpose**: Returns the current date.
- **Syntax**: =TODAY()
- **Example**: =TODAY()
  Result: Today's date (e.g., 08-May-2025).

20. NOW

- **Purpose**: Returns the current date and time.
- **Syntax**: =NOW()
- **Example**: =NOW()
  Result: Current date and time (e.g., 08-May-2025 14:30:00).

21. EDATE

- **Purpose**: Returns the date that is a specified number of months before or after a given date.
- **Syntax**: =EDATE(start_date, months)
- **Example**: =EDATE("01-Jan-2025", 3)
  Result: 01-Apr-2025 (3 months after January 1, 2025).

22. EOMONTH

- **Purpose**: Returns the last date of the month, a specified number of months before or after a given date.
- **Syntax**: =EOMONTH(start_date, months)
- **Example**: =EOMONTH("01-Jan-2025", 2)
  Result: 28-Feb-2025 (last day of the second month after January 1, 2025).

23. YEAR

- **Purpose**: Returns the year from a given date.
- **Syntax**: =YEAR(date)
- **Example**: =YEAR("15-Mar-2025")
  Result: 2025

24. YEARFRAC

- **Purpose**: Returns the year fraction (the number of years) between two dates.
- **Syntax**: =YEARFRAC(start_date, end_date)
- **Example**: =YEARFRAC("01-Jan-2025", "01-Jan-2026")
  Result: 1.00

25. DATEDIF

- **Purpose**: Calculates the difference between two dates in years, months, or days.
- **Syntax**: =DATEDIF(start_date, end_date, unit)
- **Example**: =DATEDIF("01-Jan-2025", "01-Jan-2026", "Y")
  Result: 1 (1 year)

26. WORKDAY

- **Purpose**: Returns a date that is a specified number of working days before or after a given date (excluding weekends).
- **Syntax**: =WORKDAY(start_date, days, [holidays])
- **Example**: =WORKDAY("01-Jan-2025", 10)
  Result: 15-Jan-2025 (10 working days after January 1, 2025).

27. NETWORKDAYS

- **Purpose**: Returns the number of working days between two dates.
- **Syntax**: =NETWORKDAYS(start_date, end_date, [holidays])
- **Example**: =NETWORKDAYS("01-Jan-2025", "10-Jan-2025")
  Result: 8 (working days between January 1, 2025, and January 10, 2025).

28. MONTH

- **Purpose**: Returns the month from a given date.
- **Syntax**: =MONTH(date)
- **Example**: =MONTH("01-Mar-2025")
  Result: 3

29. HOUR

- **Purpose**: Returns the hour from a given time.
- **Syntax**: =HOUR(time)
- **Example**: =HOUR("14:30:00")
  Result: 14

30. MINUTE

- **Purpose**: Returns the minute from a given time.
- **Syntax**: =MINUTE(time)
- **Example**: =MINUTE("14:30:00")
  Result: 30

31. SECOND

- **Purpose**: Returns the second from a given time.
- **Syntax**: =SECOND(time)
- **Example**: =SECOND("14:30:15")
  Result: 15

32. WEEKDAY

- **Purpose**: Returns the day of the week as a number.
- **Syntax**: =WEEKDAY(date, [return_type])
- **Example**: =WEEKDAY("08-May-2025")
  Result: 5 (representing Thursday).

33. DAY

- **Purpose**: Returns the day of the month from a given date.
- **Syntax**: =DAY(date)
- **Example**: =DAY("08-May-2025")
  Result: 8

34. WEEKNUM

- **Purpose**: Returns the week number from a given date.
- **Syntax**: =WEEKNUM(date, [return_type])
- **Example**: =WEEKNUM("08-May-2025")
  Result: 19

Mathematical Formulas

35. ISNUMBER

- **Purpose**: Checks if the value is a number.
- **Syntax**: =ISNUMBER(value)
- **Example**: =ISNUMBER(123)
  Result: TRUE

36. ISEVEN

- **Purpose**: Checks if the number is even.
- **Syntax**: =ISEVEN(number)
- **Example**: =ISEVEN(4)
  Result: TRUE

37. ISODD

- **Purpose**: Checks if the number is odd.
- **Syntax**: =ISODD(number)
- **Example**: =ISODD(5)
  Result: TRUE

38. EVEN

- **Purpose**: Rounds a number up to the nearest even integer.
- **Syntax**: =EVEN(number)
- **Example**: =EVEN(3)
  Result: 4

39. ODD

- **Purpose**: Rounds a number up to the nearest odd integer.
- **Syntax**: =ODD(number)
- **Example**: =ODD(3)
  Result: 3

40. FACT

- **Purpose**: Returns the factorial of a number.
- **Syntax**: =FACT(number)
- **Example**: =FACT(5)
  Result: 120

41. ROUND

- **Purpose**: Rounds a number to a specified number of digits.
- **Syntax**: =ROUND(number, num_digits)
- **Example**: =ROUND(3.14159, 2)
  Result: 3.14

42. ROUNDUP

- **Purpose**: Rounds a number up, away from zero, to a specified number of digits.
- **Syntax**: =ROUNDUP(number, num_digits)
- **Example**: =ROUNDUP(3.14159, 2)
  Result: 3.15

43. ROUNDDOWN

- **Purpose**: Rounds a number down, towards zero, to a specified number of digits.
- **Syntax**: =ROUNDDOWN(number, num_digits)

- **Example**: =ROUNDDOWN(3.14159, 2)
  Result: 3.14

44. SUMIF

- **Purpose**: Adds the numbers in a range that meet a specified condition.
- **Syntax**: =SUMIF(range, criteria, [sum_range])
- **Example**: =SUMIF(A1:A10, ">5", B1:B10)
  Result: Sum of values in B1:B10 where the corresponding value in A1:A10 is greater than 5.

45. COUNTIF

- **Purpose**: Counts the number of cells that meet a specified condition.
- **Syntax**: =COUNTIF(range, criteria)
- **Example**: =COUNTIF(A1:A10, ">5")
  Result: Count of cells in A1:A10 where the value is greater than 5.

46. POWER

- **Purpose**: Returns the result of a number raised to a given power.
- **Syntax**: =POWER(number, power)
- **Example**: =POWER(2, 3)
  Result: 8

47. PI

- **Purpose**: Returns the value of π (Pi).
- **Syntax**: =PI()
- **Example**: =PI()
  Result: 3.14159265358979

48. COS

- **Purpose**: Returns the cosine of an angle (in radians).
- **Syntax**: =COS(angle)
- **Example**: =COS(PI()/3)
  Result: 0.5

49. SIN

- **Purpose**: Returns the sine of an angle (in radians).
- **Syntax**: =SIN(angle)
- **Example**: =SIN(PI()/2)
  Result: 1

50. TAN

- **Purpose**: Returns the tangent of an angle (in radians).
- **Syntax**: =TAN(angle)
- **Example**: =TAN(PI()/4)
  Result: 1

Logical Formulas

51. IF

- **Purpose**: Returns one value if a condition is true and another value if it's false.
- **Syntax**: =IF(logical_test, value_if_true, value_if_false)
- **Example**: =IF(A1>10, "Yes", "No")
  Result: Returns Yes if the value in A1 is greater than 10, otherwise returns No.

52. AND

- **Purpose**: Returns TRUE if all arguments are true.
- **Syntax**: =AND(logical1, logical2, …)
- **Example**: =AND(A1>5, B1<10)
  Result: TRUE if both conditions are true.

53. ISERROR

- **Purpose**: Returns TRUE if a formula results in an error.
- **Syntax**: =ISERROR(value)
- **Example**: =ISERROR(A1/B1)
  Result: TRUE if dividing by zero or any error occurs.

54. OR

- **Purpose**: Returns TRUE if any of the conditions are true.
- **Syntax**: =OR(logical1, logical2, …)
- **Example**: =OR(A1>10, B1<5)
  Result: TRUE if either condition is true.

Lookup & Reference Formulas

55. HLOOKUP

- **Purpose**: Searches for a value in the first row of a table and returns a value in the same column from another row.
- **Syntax**: =HLOOKUP(lookup_value, table_array, row_index_num, [range_lookup])
- **Example**: =HLOOKUP("Apple", A1:D4, 2, FALSE)
  Result: Returns the value in the second row of the table where "Apple" is found in the first row.

56. VLOOKUP

- **Purpose**: Searches for a value in the first column of a table and returns a value in the same row from another column.
- **Syntax**: =VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])
- **Example**: =VLOOKUP("John", A1:B10, 2, FALSE)
  Result: Returns the value from the second column where "John" is found in the first column.

57. HYPERLINK

- **Purpose**: Creates a clickable link in the cell that leads to a URL or file.
- **Syntax**: =HYPERLINK(link_location, [friendly_name])
- **Example**: =HYPERLINK("http://www.example.com", "Visit Example")
  Result: Creates a clickable link with the text "Visit Example."

58. INDIRECT

- **Purpose**: Returns the value of a reference specified by a text string.
- **Syntax**: =INDIRECT(ref_text, [a1])
- **Example**: =INDIRECT("A1")
  Result: Returns the value in cell A1.

59. MATCH

- **Purpose**: Searches for a value in a range and returns the relative position of that item.
- **Syntax**: =MATCH(lookup_value, lookup_array, [match_type])
- **Example**: =MATCH("Banana", A1:A10, 0)
  Result: Returns the position of "Banana" in the range A1:A10.

60. IFERROR

- **Purpose**: Returns a specified value if a formula results in an error; otherwise, returns the result of the formula.
- **Syntax**: =IFERROR(value, value_if_error)
- **Example**: =IFERROR(A1/B1, "Error in calculation")
  Result: Returns "Error in calculation" if the division results in an error.

Formula	Description
TEXT FORMULAS	
PROPER	Capitalizes the first letter of each word in a text string.
CONCATENATE	Combines two or more text strings into one string.
LEN	Counts the number of characters in a text string.
UPPER	Converts all characters in a text string to uppercase.
LOWER	Converts all characters in a text string to lowercase.
FIND	Finds the position of a specific character or substring within a text string.
REPLACE	Replaces a specific part of a text string with a new text string based on character position.
DOLLAR	Converts a number to a text value in currency format.
LEFT	Extracts a specified number of characters from the left side of a text string.
RIGHT	Extracts a specified number of characters from the right side of a text string.
SUBSTITUTE	Replaces a specific text within a string with another text string.
TRIM	Removes extra spaces between words in a text string.
TEXT	Converts a value to text in a specific format.
SEARCH	Finds the position of a substring within a text string (case-insensitive).
REPT	Repeats a text string a specified number of times.
CODE	Returns the ASCII value of the first character in a text string.
DATE/TIME FORMULAS	
DATE	Returns a date based on the provided year, month, and day values.
TIME	Returns a time based on the provided hour, minute, and second values.
TODAY	Returns the current date.
NOW	Returns the current date and time.
EDATE	Returns a date that is a specified number of months before or after a given date.
EOMONTH	Returns the last date of the month a specified number of months before or after a given date.
YEAR	Extracts the year from a given date.
YEARFRAC	Returns the fraction of a year between two dates.
DATEDIF	Calculates the difference between two dates in terms of years, months, or days.
WORKDAY	Returns a date that is a specified number of working days before or after a given date.
NETWORKDAYS	Returns the number of working days between two dates.
MONTH	Extracts the month number from a given date.
HOUR	Extracts the hour from a given time.
MINUTE	Extracts the minute from a given time.

SECOND	Extracts the second from a given time.
WEEKDAY	Returns the weekday number of a given date (1-7, with an option to set the starting day of the week).
DAY	Extracts the day of the month from a given date.
WEEKNUM	Returns the week number of a given date.
MATHEMATICAL FORMULAS	
ISNUMBER	Checks if the selected value is a number.
ISEVEN	Checks if the selected number is even.
ISODD	Checks if the selected number is odd.
EVEN	Rounds a number to the nearest even number.
ODD	Rounds a number to the nearest odd number.
FACT	Returns the factorial of a number.
ROUND	Rounds a number to a specified number of digits.
ROUNDUP	Rounds a number up to a specified number of digits.
ROUNDDOWN	Rounds a number down to a specified number of digits.
SUMIF	Adds the values in a range that meet specified criteria.
COUNTIF	Counts the number of cells that meet specified criteria.
POWER	Returns the result of a number raised to a specified power.
PI	Returns the value of Pi (π).
COS	Returns the cosine of a number (in radians).
SIN	Returns the sine of a number (in radians).
TAN	Returns the tangent of a number (in radians).
LOGICAL FORMULAS	
IF	Returns one value if a condition is TRUE, and another value if it is FALSE.
AND	Returns TRUE if all conditions are true; otherwise, returns FALSE.
ISERROR	Checks if a cell contains an error.
OR	Returns TRUE if any of the conditions are true; otherwise, returns FALSE.
LOOKUP & REFERENCE FORMULAS	
HLOOKUP	Searches for a value in the first row of a range and returns a value in the same column from a specified row.
VLOOKUP	Searches for a value in the first column of a range and returns a value in the same row from a specified column.
HYPERLINK	Creates a clickable link to a web page, file, or email address.
INDIRECT	Returns the value of a cell reference specified as a text string.
MATCH	Searches for a specified value in a range and returns the relative position of that item.