Essential

Handy, lesser-known

Old but useful

Advanced

15 EXCEL FUNCTIONS TO MASTER

Download in hi-res: https://bit.ly/15excelfn

1 IF: Condition-based decision-making

```
=IF(C4>5000,"Bonus","No Bonus")
```

	Sales Rep	Sales $	Bonus
4	Amy	10,000	Bonus
5	Betsy	5,000	No Bonus
6	Clara	4,000	No Bonus

IF(logical_test, value_if_true, value_if_false)

e.g., Check if sales exceed a target - return "Bonus" if true and "No Bonus" if false

IF Masterclass: https://bit.ly/fn-iffunc

2 SUMIFS: Aggregate filtered values

```
=SUMIFS(D4:D7,C4:C7,G3,B4:B7,G4)
```

	Sales Rep	Region	Sales $		
4	Amy	West	10,000	Region	West
5	Betsy	East	5,000	Sales Rep	Clara
6	Clara	West	4,000		
7	Dan	West	2,000	Sales	4,000

SUMIFS(sum_range, criteria_range1, criteria1, [criteria_range2, criteria2], ...)

Sum based on multiple criteria

SUMIFS Masterclass: https://bit.ly/fn-sumifs

3 FILTER: Extract data based on criteria

```
=FILTER(B4:D7,C4:C7=C9,"No Sales")
```

	Sales Rep	Region	Sales $
4	Amy	West	10,000
5	Betsy	East	5,000
6	Clara	West	4,000
7	Dan	West	2,000
9	Region	West	
11	Amy	West	10000
12	Clara	West	4000
13	Dan	West	2000

FILTER(array, include,[if_empty])

Show sales data from a specific region only

FILTER Masterclass: https://bit.ly/filterfunc

4 EOMONTH: Dynamically calculate dates

```
=EOMONTH(B4,0)
```

	Transaction Date	Month Start	Month End
4	1/4/2024	1/1/2024	1/31/2024
5	6/18/2024	6/1/2024	6/30/2024
6	12/20/2024	12/1/2024	12/31/2024

EOMONTH(start_date, months)

Calculate due dates

To calculate start of the month use the formula EOMONTH(start_date, -1) + 1

5 IFERROR: Handle errors gracefully

```
=C5/D5
```

	Car	Profit	Units Sold	Average Profit
4	Tesla	10,000	20	500
5	BMW	4,000	0	#DIV/0!

```
=IFERROR(C5/D5,"Check Value")
```

	Car	Profit	Units Sold	Average Profit
4	Tesla	10,000	20	500
5	BMW	4,000	0	Check Value

IFERROR(value, value_if_error)

Show a default value instead of an error

Formula Error Checklist: https://bit.ly/error-checklist

6 TEXTJOIN: Advanced CONCATENATE

```
=TEXTJOIN(", ",TRUE,C3:C5)
```

3	Street Address	123 Main St
4	City	Springfield
5	State	IL
6	Complete Address	123 Main St, Springfield, IL

TEXTJOIN(delimiter, ignore_empty, text1, [text2],...)

Specify delimiter only once, unlike CONCATENATE

7 LET: Make multi-step calculations more readable & efficient

X=394

```
=LET(
Cost,C3,
SellPrice,C4,
Tax,C5,
(SellPrice-Cost)*(1-Tax))
```

	Particulars	Value
3	Cost Price $	1,500
4	Selling Price $	2,500
5	Tax Rate	10%
6	Profit After Tax $	900

LET(name1, name_value1, calculation_or_name2, [name_value2, calculation_or_name3...])

Simplify complex formulas by storing intermediate results

LET Masterclass: https://bit.ly/fn-let

8 INDEX: Return a value or reference from a range

```
=INDEX(C4:C6,2)
```

	Product	Price $
4	Laptop	8,000
5	Tablet	3,000
6	Smartphone	5,000
8	Tablet	3,000

INDEX(array, row_num, [column_num])

Requires row or column numbers as an input. **Tip**: Use MATCH for these arguments

9 MATCH: Obtain the row or column number of a value in a row or column

```
=MATCH(B8,B4:B6,0)
```

	Product	Price $
4	Laptop	8,000
5	Tablet	3,000
6	Smartphone	5,000
8	Tablet	2

MATCH(lookup_value, lookup_array, [match_type])

Use MATCH to derive INDEX row/col number inputs

INDEX + MATCH Masterclass: https://bit.ly/fnindex-match

10 XLOOKUP: New improved lookup

```
=XLOOKUP(B8,B4:B6,C4:C6)
```

	Product	Price $
4	Laptop	8,000
5	Tablet	3,000
6	Smartphone	5,000
8	Tablet	3,000

XLOOKUP(lookup_value, lookup_array, return_array, [if_not_found], [match_mode], [search_mode])

Replaces VLOOKUP & HLOOKUP in newer Excel versions

XLOOKUP Masterclass: https://bit.ly/fnxlookup

11 OFFSET: Create dynamic references that automatically expand/contract

```
=SUM(C4:OFFSET(C9,-1,0))
```

	Product	Sales $
4	Laptop	8,000
5	Tablet	3,000
6	Smartphone	5,000
9	Total	16,000

1. Insert more rows or additional data

2. The SUM will dynamically update

OFFSET(reference, rows, cols, [height], [width])

OFFSET Masterclass: https://bit.ly/fnoffset

12 UNIQUE: Remove duplicates / create list of distinct values.

```
=UNIQUE(C4:C8)
```

	Date	Product	Product
4	1/15/2024	Laptop	Laptop
5	2/10/2024	Tablet	Tablet
6	3/15/2024	Smartphone	Smartphone
7	4/20/2024	Laptop	
8	5/25/2024	Tablet	

UNIQUE(array,[by_col], [exactly_once])

Combine with SORT for a sorted unique list

UNIQUE Masterclass: https://bit.ly/da-unique

13 SEQUENCE: Automate numbering

```
=SEQUENCE(COUNTA(C4:C8))
```

	#	Product
4	1	Laptop
5	2	Tablet
6	3	Smartphone
7	4	Mouse
8	5	Keyboard

SEQUENCE(rows,[columns],[start],[step])

Combine with COUNTA to make numbering dynamic

SEQUENCE Masterclass: https://bit.ly/da-sequence

14 SUBSTITUTE: Find & Replace in a formula

```
=SUBSTITUTE(B4, "OLD-", "NEW-")
```

	Old Product ID	New Product ID
4	OLD-12345	NEW-12345
5	OLD-23456	NEW-23456
6	OLD-34567	NEW-34567
7	OLD-45678	NEW-45678

SUBSTITUTE(text, old_text, new_text, [instance_num])

- Preserve old text
- Minimize Find & Replace steps

SUBSTITUTE Masterclass: https://bit.ly/fn-substitute

15 AGGREGATE: Like SUBTOTAL but better!

```
=SUBTOTAL(1,C4:C6)
```

	#	Values
4	1	10
5	2	20
6	3	#DIV/0!
7	Total	#DIV/0!

```
=AGGREGATE(1,3,F3:F6)
```

	#	Values
4	1	10
5	2	20
6	3	#DIV/0!
7	Total	15

AGGREGATE(function_num, options, ref1, [ref2], ...)

- Handle **hidden rows, error values, and nested subtotals**
- Like SUBTOTAL, but better!

AGGREGATE Masterclass: https://bit.ly/fn-aggregate

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Mynda Treacy

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