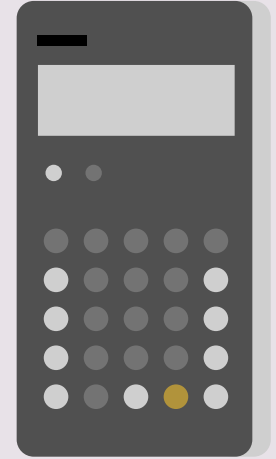# Math and statistical functions

SUM
- Calculates the addition of the selected cells

AVERAGE
- Calculates the average of the selected cells

COUNT
- Counts the total number of cells in a range that contains a number
- Use COUNTA to count all cells containing any value (not just numbers)
- Use COUNTBLANK to count blank cells in a range

SUMIF, SUMFS, AVERAGEIF, AVERAGEIFS, COUNTIF, COUNTIFS
- Same as base formulas, but the selected cells can be filtered

MAX, LARGE
- Returns the largest or the k-th largest value in a data set

MIN, SMALL
- Returns the smallest or the k-th smallest value in a data set

	A	B
1	yes	5
2		3
3		1
4	yes	8
5		a
6	*Calculations:*	
7	**SUM(B1:B5)**	17
8	**AVERAGE(B1:B5)**	4,25
9	**COUNT(B1:B5)**	4
10	**COUNTA(B1:B5)**	5
11	**COUNTBLANK(A1:B5)**	3
12	**SUMIF(A1:A5;"yes";B1:B5)**	13
13	**MAX(B1:B5)**	8
14	**LARGE(B1:B5;2)**	5

Text functions

CONCATENATE

- merges multiple text strings into one text string

LEN

- Returns the total number of characters in a string

LEFT, RIGHT, MID

- Gives the number of characters from the start, end or middle of a text string

FIND

- Finds one text value within another (case-sensitive)
- SEARCH is the not case-sensitive version of FIND

	A	B	C	D	E	F	G	H
1	Text	LEN	LEFT(Text;2)	RIGHT(Text;2)	Mid(Text;2;2)	FIND("t";Text)	CONCATENATE(C2;D2)	
2	car	3	ca	ar	ar	#VALUE	caar	
3	house	5	ho	se	ou	#VALUE	hose	
4	street	6	st	et	tr	2	stet	
5	city	4	ci	ty	it	3	city	
6								

Date and time functions

TODAY, NOW

- Gives the current system date or date and time

DAY, MONTH, YEAR

- Returns the day, month or year of a selected date

DATEDIF

- Calculates difference between two dates in terms of years, months, or days

	A	B	C
1	TODAY()	NOW()	
2	2024.04.20	2024.04.20 22:05	
3			
4	DAY(A1)	MONTH(A1)	YEAR (A1)
5	20	4	2024
6			
7	2023.04.20	DATEDIF(A7;A2;"d")	
8		366	

Information functions

IF

- Checks a condition and returns a particular value if it is true. It will return another value if the condition is false.

	A	B
1	Number	IF(Number>=20;"A";"B")
2	10	B
3	20	A
4	30	A

IFERROR

- Returns a value if an expression evaluates to an error, or else it will return the value of the expression

	A	B	C	D
1	a	b	a*b	IFERROR(C2;0)
2	2	3	6	6
3	4	x	#VALUE	0

Logical functions

AND

- Returns TRUE if all of its arguments are true

NOT

- Reverses the logic of its argument

OR

- Returns TRUE if any argument is true

	A	B	C	D	E	F	G
1	a	b	a=b	a>b	AND(C2;D2)	OR(C2;D2)	NOT(F2)
2	2	10	FALSE	FALSE	FALSE	FALSE	TRUE
3	4	8	FALSE	FALSE	FALSE	FALSE	TRUE
4	6	6	TRUE	FALSE	FALSE	TRUE	FALSE
5	8	4	FALSE	TRUE	FALSE	TRUE	FALSE
6	10	2	FALSE	TRUE	FALSE	TRUE	FALSE

Lookup functions

VLOOKUP

- Searches a particular value in the first column of a table. Then returns a value in the same row from a column you specify.
- HLOOKUP can be used for horizontal lookup

INDEX-MATCH

- Similar as VLOOKUP, but the searched value doesn't have to be in the first line

	A	B
1	Teacher Name	Subject
2	Anne Smith	Math
3	Rob Tailor	English
4	Katherine Big	History
5	Juan Santos	Biology
6		
7		VLOOKUP(A8;A1:C5;2;FALSE)
8	**Anne Smith**	Math
9		
10		INDEX(A1:A5;MATCH(A11;B1:B5;0))
11	**History**	Katherine Big