Pack 1 of 3

Excel Fundamentals & Productivity

Essential skills for everyday accounting work

What's Included

1. 10 Essential Excel Functions
2. Excel Shortcuts Cheatsheet
3. Common Excel Errors
4. 12 Excel Mistakes to Avoid
5. 5 Excel Features You Should Know
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Core Skills

Functions • Shortcuts • Errors

Data Management

Validation • Pivots • Auditing

10 Essential Excel Functions

Master these formulas to streamline your accounting workflows

1 SUMIFS

```
=SUMIFS(sum_range, criteria_range1, criteria1, ...)
```

Adds values that meet multiple criteria. Perfect for totaling by client, region, or period.

2 XLOOKUP

```
=XLOOKUP(lookup_value, lookup_array, return_array)
```

Searches and returns matching results. Essential for reference tables and chart of accounts.

3 IFERROR

```
=IFERROR(value, value_if_error)
```

Returns custom value on errors. Clean up reports and avoid #DIV/0! displays.

4 EOMONTH

```
=EOMONTH(start_date, months)
```

Returns the last day of a month. Critical for due dates and period-end calculations.

5 PMT

```
=PMT(rate, nper, pv)
```

Calculates loan payments. Essential for amortization and lease calculations.

6 INDEX & MATCH

```
=INDEX(array, MATCH(lookup_value, lookup_array, 0))
```

Two-dimensional lookup anywhere in a table. More flexible than VLOOKUP.

7 XNPV

```
=XNPV(rate, values, dates)
```

NPV for irregular cash flows. Use for investments with non-periodic payments.

8 COUNTIFS

```
=COUNTIFS(criteria_range1, criteria1, ...)
```

Counts cells meeting multiple criteria. Great for aging analysis and sampling.

9 TEXT

```
=TEXT(value, format_text)
```

Formats numbers as text. Perfect for consistent date displays and labels.

10 ROUND

```
=ROUND(number, num_digits)
```

Rounds to specified decimals. Essential for avoiding rounding errors.

Excel Shortcuts Cheatsheet

Speed up your workflow with these essential keyboard shortcuts

General

Ctrl + S	Save Workbook
Ctrl + C	Copy
Ctrl + V	Paste
Ctrl + Z	Undo
Ctrl + Y	Redo
Ctrl + N	New Workbook
Ctrl + O	Open Workbook
Ctrl + P	Print

Navigation

Ctrl + →	Jump to Edge of Data
Ctrl + Home	Go to First Cell
Ctrl + End	Go to Last Cell
Ctrl + PgDn	Next Worksheet
Ctrl + PgUp	Previous Worksheet
Ctrl + Tab	Next Workbook

Formatting

Ctrl + Shift + $	Currency Format
Ctrl + Shift + %	Percentage Format
Ctrl + Shift + #	Date Format
Ctrl + Shift + !	Number Format
Ctrl + ;	Insert Current Date
Ctrl + :	Insert Current Time
Ctrl + +	Insert Rows/Columns
Ctrl + -	Delete Rows/Columns

Data & Formulas

Ctrl + T	Create Table
Ctrl + E	Flash Fill
Alt + =	AutoSum
F4	Toggle Absolute Reference
Ctrl + D	Fill Down
Ctrl + R	Fill Right

Common Excel Errors & Solutions

Quick reference guide to diagnose and fix formula errors

#DIV/0!

Division by zero or empty cell

Use IFERROR to handle: =IFERROR(A1/B1, 0)

#VALUE!

Wrong type of argument or operand

Check data types. Use VALUE() or TEXT() to convert.

#NAME?

Excel doesn't recognize text in formula

Check for typos in function names. Enclose text in quotes.

#REF!

Invalid cell reference

Update references after deleting rows/columns. Use Undo.

#N/A

Value not found in lookup

Verify lookup value exists. Check for extra spaces.

#NUM!

Invalid numeric value in formula

Check numeric arguments are within valid ranges.

#NULL!

Incorrect range operator

Use comma to separate ranges: =SUM(A1:A10, B1:B10)

#SPILL!

Dynamic array blocked by data

Clear cells where the formula needs to spill results.

#CALC!

Calculation error in array formula

Check array formula logic and source data.

######

Column too narrow to display

Widen the column or reduce font size.

12 Excel Mistakes to Avoid

Common pitfalls that slow you down and cause errors

1 Wrong Data Formats

Using text instead of numbers or dates causes calculation errors.

2 Skipping Error Handling

Not using IFERROR leads to ugly #ERROR displays in reports.

3 Ignoring Data Validation

Without input restrictions, users can enter invalid data.

4 No Conditional Formatting

Missing visual cues makes it hard to spot issues quickly.

5 Avoiding Keyboard Shortcuts

Mouse-only work is slow. Shortcuts save hours per week.

6 Skipping Named Ranges

Cell references make formulas hard to read and maintain.

7 Infrequent Saving

Losing work to crashes is preventable with AutoSave.

8 Reference Type Confusion

Mixing absolute (A1) and relative (A1) incorrectly.

9 Dirty Data

Duplicates, blanks, and inconsistencies corrupt analysis.

10 Overcomplicated Formulas

Long nested formulas are hard to debug. Use helper columns.

11 Ignoring Advanced Features

Power Query and Pivot Tables automate hours of work.

12 Too Much Manual Entry

Typing is slow and error-prone. Import and use formulas.

5 Excel Features You Should Know

Power features that transform how you work with data

1 Data Tables

What-If Analysis

See how changing one or two variables affects your results. Perfect for sensitivity analysis.

1. Set up calculation with input cells
2. Data → What-If Analysis → Data Table
3. Link inputs and see all scenarios

2 Pivot Tables

Summarise & Analyse

Transform raw data into meaningful summaries. Group by any dimension instantly.

1. Select data with headers
2. Insert → PivotTable
3. Drag fields to Rows, Columns, Values

3 Data Validation

Input Control

Restrict what users can enter. Create dropdowns and prevent errors at source.

1. Select cells → Data → Data Validation
2. Choose type (list, number, date)
3. Add error alert

4 Power Query

Data Transformation

Import, clean, and transform data. Create repeatable workflows that refresh.

1. Data → Get Data to connect
2. Transform and combine sources
3. Load to worksheet

5 Group & Outline

Structure Control

Create collapsible sections. Show summaries or detail as needed.

1. Select rows/columns
2. Data → Group
3. Use +/- to expand/collapse

Text Functions Guide

Extract, transform, and manipulate text

Core Text Functions

`LEFT`	Extract characters from start	`=LEFT("Hello", 2) → "He"`
`RIGHT`	Extract characters from end	`=RIGHT("Hello", 2) → "lo"`
`MID`	Extract from middle	`=MID("Hello", 2, 3) → "ell"`
`LEN`	Count characters	`=LEN("Hello") → 5`
`FIND`	Find position (case-sensitive)	`=FIND("l", "Hello") → 3`
`SEARCH`	Find position (case-insensitive)	`=SEARCH("L", "Hello") → 3`

Transform Functions

`UPPER` `=UPPER("hello") → "HELLO"`

`LOWER` `=LOWER("HELLO") → "hello"`

`PROPER` `=PROPER("hello world") → "Hello World"`

`TRIM` `=TRIM(" hello ") → "hello"`

`CLEAN` `=CLEAN(A1) → removes non-printable chars`

Common Use Cases

Extract First Name — From "John Smith" get "John"

```
=LEFT(A1, FIND(" ", A1)-1)
```

Extract Last Name — From "John Smith" get "Smith"

```
=RIGHT(A1, LEN(A1)-FIND(" ", A1))
```

Extract Domain — From email get domain

```
=MID(A1, FIND("@", A1)+1, LEN(A1))
```

Combine Text — Join first and last names

```
=CONCAT(A1, " ", B1) or =A1&" "&B1
```

Excel 365 Text Functions

`TEXTJOIN`	`=TEXTJOIN(", ", TRUE, A1:A5)`	Join with delimiter
`TEXTSPLIT`	`=TEXTSPLIT(A1, " ")`	Split text into cells
`TEXTBEFORE`	`=TEXTBEFORE(A1, "@")`	Text before delimiter
`TEXTAFTER`	`=TEXTAFTER(A1, "@")`	Text after delimiter

Error Handling Guide

IFERROR, IFNA & debugging formulas

Common Excel Errors

Error	Cause	Fix
#VALUE!	Wrong type of argument or operand	Check data types
#REF!	Invalid cell reference	Fix deleted references
#NAME?	Unrecognized formula name	Check spelling
#DIV/0!	Division by zero	Add zero check
#N/A	Value not available	Use IFNA or IFERROR
#NULL!	Incorrect range operator	Check range syntax
#NUM!	Invalid numeric value	Verify calculations

Error Handling Functions

IFERROR Returns custom value for ANY error

```
=IFERROR(A1/B1, 0)
```

IFNA Returns custom value for #N/A only

```
=IFNA(VLOOKUP(A1,B:C,2,0), "Not Found")
```

Error Check Functions

ISERROR

Returns TRUE if value is any error

ISNA

Returns TRUE if value is #N/A

Best Practices

Use IFNA for Lookups

✓ Better:

```
=IFNA(XLOOKUP(A1,B:B,C:C), "Not Found")
```

✗ Avoid:

```
=IFERROR(XLOOKUP(A1,B:B,C:C), "Not Found")
```

Handle Division Safely

✓ Better:

```
=IF(B1=0, 0, A1/B1)
```

✗ Avoid:

```
=IFERROR(A1/B1, 0)
```

Debugging Tips

- F9 key evaluates selected formula parts
- Use Evaluate Formula (Formulas tab)
- Error Checking tool highlights issues
- FORMULATEXT() shows formula as text

Data Validation Essentials

Ensure data integrity for accurate reporting

Validation Types

`Whole Number`	Quantities, counts, IDs	Between 1 and 1000
`Decimal`	Prices, percentages, rates	Between 0 and 100
`List`	Dropdown selections	Yes, No, Pending
`Date`	Transaction dates, due dates	Greater than 1/1/2020
`Text Length`	Codes, account numbers	Exactly 10 characters
`Custom`	Complex rules	=AND(A1>0, A1<B1)

Custom Validation Rules

Positive Numbers Only	`=A1>0`	Revenue, quantities
Valid Account Code	`=AND(LEN(A1)=6, ISNUMBER(VALUE(A1)))`	6-digit numeric codes
Date Not in Future	`=A1<=TODAY()`	Transaction dates
Unique Entry	`=COUNTIF($A:$A, A1)=1`	Prevent duplicates
Depends on Another Cell	`=IF($B1="Required", A1<>"", TRUE)`	Conditional requirements

Error Alert Styles

🛑 **Stop**

Prevents invalid entry

⚠️ **Warning**

Warns but allows override

ℹ️ **Information**

Just shows message

Data Cleaning Functions

`TRIM`

Remove extra spaces

`CLEAN`

Remove non-printable chars

`UPPER/LOWER/PROPER`

Standardize case

`VALUE`

Convert text to number

`DATEVALUE`

Convert text to date

`SUBSTITUTE`

Replace specific characters

Pivot Table Functions

Extract data from PivotTables for custom reports

GETPIVOTDATA Syntax

```
=GETPIVOTDATA(data_field, pivot_table, [field1, item1], ...)
```

`data_field`	Name of the value field to retrieve
`pivot_table`	Reference to any cell in the pivot table
`field, item`	Pairs specifying the filter criteria

Examples

Basic Retrieval

```
=GETPIVOTDATA("Revenue", $A$3, "Region", "North")
```

Get Revenue for North region

Multiple Criteria

```
=GETPIVOTDATA("Revenue", $A$3, "Region", "North", "Year", 2024)
```

Revenue for North in 2024

Grand Total

```
=GETPIVOTDATA("Revenue", $A$3)
```

No criteria = grand total

Reporting Patterns

Monthly Comparison

Pull specific periods dynamically

```
=GETPIVOTDATA("Sales", $A$3, "Month", A1)
```

YoY Variance

Calculate year-over-year changes

```
=GETPIVOTDATA("Rev",$A$3,"Year",2024)-GETPIVOTDATA("Rev",$A$3,"Year",2023)
```

Tips

Auto-generate GETPIVOTDATA

Click pivot cell while typing formula

Disable auto-generation

Options → Formulas → uncheck "Use GetPivotData"

Handle errors

=IFERROR(GETPIVOTDATA(...), 0)

Refresh linked formulas

Pivot refresh updates GETPIVOTDATA automatically

Audit & Review Functions

Verify, document & troubleshoot spreadsheets

Audit Functions

`FORMULATEXT`	Display formula as text	Document formulas
`ISFORMULA`	Check if cell has formula	Find hardcoded values
`INFO`	System/file information	Track file location
`CELL`	Cell/file properties	Dynamic file references
`SHEET`	Sheet number	Dynamic sheet references
`SHEETS`	Count of sheets	Verify workbook structure

Formula Investigation

Show All Formulas in Range

```
=FORMULATEXT(A1)
```

Drag down to show each formula

Find Hardcoded Cells

```
=IF(ISFORMULA(A1), "Formula", "Hardcoded")
```

Identify manual entries vs calculations

Check for External Links

```
=IF(ISERROR(FIND("[", FORMULATEXT(A1))), "Internal", "External")
```

Detect links to other workbooks

Audit Shortcuts

`Ctrl + [`	Trace Precedents	`Ctrl + ]`	Trace Dependents
`Alt, M, A, A`	Remove Arrows	`Alt, M, V`	Error Checking

Spreadsheet Review Checklist

Hardcoded values in formulas	High	Search for numbers in formulas
Circular references	High	File → Options → Formulas
External links	Medium	Edit → Links
Named range errors	Medium	Name Manager → filter errors
Hidden rows/columns	Medium	Check for discontinuous ranges
Inconsistent formulas	Medium	Error checking in ribbon

Named Ranges & Tables

Structured references for maintainable spreadsheets

Creating Named Ranges

Name Box	Select range → Click Name Box → Type name → Enter	Fastest
Name Manager	Formulas tab → Name Manager → New	Most control
Create from Selection	Select data with headers → Formulas → Create from Selection	Bulk creation

Structured Table References

`TableName[ColumnName]`	All data in column (no headers)	`Sales[Revenue]`
`TableName[@ColumnName]`	Current row value only	`[@Quantity]*[@Price]`
`TableName[#Headers]`	Header row only	`Sales[#Headers]`
`TableName[#Data]`	All data rows (no headers)	`SUM(Sales[#Data])`

Dynamic Range Techniques

OFFSET-based Dynamic Range

```
=OFFSET(Sheet1!$A$1, 0, 0, COUNTA(Sheet1!$A:$A), 1)
```

Expands as data is added (older method)

Spill Range Reference

```
=UNIQUE(Data)#
```

Reference entire spill range with # operator

Naming Conventions

`rng_`	Named ranges: rng_SalesData, rng_Accounts	Easy to identify in formulas
`tbl_`	Tables: tbl_Transactions, tbl_Employees	Distinguishes from ranges
`const_`	Constants: const_TaxRate, const_FiscalYear	Identifies static values

Accounting Applications

Chart of Accounts Lookup

```
=XLOOKUP(AcctNum, rng_ChartOfAccounts, rng_AcctNames)
```

Named ranges make formulas self-documenting

Master Excel Today. Automate Tomorrow.

You've learned the fundamentals. Now discover how AI can speed up your workflows.

Beyond Spreadsheets

Before: Manual Work
Time-consuming repetitive tasks

↓

After: AI Automation
Streamlined accounting workflows

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