

Stop writing 40 SUMIFS.

THE FOUR ZONES

rows	what you group by
columns	the second group-by
values	the number, aggregated
filters	the slice on top

SHOW VALUES AS

% of column total	shares, not raw sums
running total	cumulative in one click
diff from prev	MoM, no formulas

POWER MOVES

group dates	days → months, 1 click
double-click a cell	its source rows
slicers	boss-proof filters

VALUES

sum by default	numbers only
count	what text columns get
right-click → avg	← nobody finds it.

THE SOURCE

one flat table	headers on one row
no merged cells	they break grouping
Ctrl+T first	← ranges auto-grow.

GOTCHAS

stale cache	← new rows need Refresh.
numbers as text	count, not sum
blank rows	split your data silently

WORTH MEMORIZING

01 The same pivot in pandas and SQL

One mental model, three tools: rows are the group-by, values are the aggregate.

```
pd.pivot_table(sales,
               index="region",      # rows
               columns="quarter",   # columns
               values="amount",     # values
               aggfunc="sum")

# the SQL twin:
# SELECT region, quarter, SUM(amount)
# FROM sales GROUP BY region, quarter
```

→ Recruiters love this bridge: a pivot table IS a GROUP BY. Explaining one in terms of the other is the cheapest way to prove you understand both.

02 Trap: the pivot that reports wrong numbers

Three quiet failure modes, all survivable if you know they exist.

SYMPTOM	CAUSE	FIX
new rows missing	cache never refreshed	Refresh, or Ctrl+T source
count instead of sum	one text cell in the column	clean, re-add the field
category vanished	blank row split the range	delete it, refresh

→ Interview phrasing: a pivot is a snapshot of its cache, not a live view. Refresh is part of the workflow, not an afterthought.