

Algebra 1
Two-Way Frequency Tables

Two-Way Frequency Tables | A1-U10-P15
96 problems · Four activity formats

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Topic focus
Across 96 tasks this topic asks for recoded count table, fraction and percent of entire sample, complete labeled count table, classified count and scope, justified count or count range and missing integer counts plus margin check.
8 PDFs and a README; 76 buyer pages.

Algebra 1

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Name: _____ Date: _____ Class: _____

Answer each question and record the matching bank letter. Give exact values. Give the whole requested response, including any reasoning the question asks for.

Use a parcel-service sample: service by result table; standard: on time=34, delayed=6; express: on time=18, delayed=2. Report the marginal count for delayed across every service category, name it as joint, marginal, or grand, and explain the logical scope.

Row / column	on time	delayed	Row total
standard	34	6	_____
express	18	2	_____
Column total	_____	_____	_____

Bank label: _____

Use a workplace training record: format by completion table; online: complete=19, incomplete=7; in person: complete=23, incomplete=6. Report the number represented by the entire sample, name it as joint, marginal, or grand, and explain the logical scope.

Row / column	complete	incomplete	Row total
online	19	7	_____
in person	23	6	_____
Column total	_____	_____	_____

Bank label: _____

Use a theater ticket report: show by purchase table; matinee: advance=16, door=9; evening: advance=27, door=18. Report the joint count for evening and advance, name it as joint, marginal, or grand, and explain the logical scope.

Row / column	advance	door	Row total
matinee	16	9	_____
evening	27	18	_____
Column total	_____	_____	_____

Bank label: _____

Use a greenhouse experiment: fertilizer by flowering table; used: yes=25, no=5; not used: yes=14, no=16. Report the marginal count for used across every flowering category, name it as joint, marginal, or grand, and explain the logical scope.

Row / column	yes	no	Row total
used	25	5	_____
not used	14	16	_____
Column total	_____	_____	_____

Bank label: _____

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Answer each question and show your reasoning in the workspace. Give exact values rather than decimals unless the question supplies a decimal. Give the whole requested response, including any reasoning the question asks for.

In a commuter survey, the paired-category ledger says bus and early: 18; bus and late: 7; bike and early: 9; bike and late: 16. Organize those observations into joint cells and show all row totals, column totals, and the grand total.

Row category	Column category	Records
bus	early	18
bus	late	7
bike	early	9
bike	late	16

Row / column	early	late	Row total
bus	_____	_____	_____
bike	_____	_____	_____
Column total	_____	_____	_____

In a community-garden log, the paired-category ledger says sunny and harvested: 21; sunny and not harvested: 4; shaded and harvested: 12; shaded and not harvested: 8. Organize those observations into joint cells and show all row totals, column totals, and the grand total.

Row category	Column category	Records
sunny	harvested	21
sunny	not harvested	4
shaded	harvested	12
shaded	not harvested	8

Row / column	harvested	not harvested	Row total
sunny	_____	_____	_____
shaded	_____	_____	_____
Column total	_____	_____	_____

In a clinic appointment review, the paired-category ledger says scheduled and on time: 26; scheduled and late: 5; walk-in and on time: 10; walk-in and late: 9. Organize those observations into joint cells and show all row totals, column totals, and the grand total.

Row category	Column category	Records
scheduled	on time	26
scheduled	late	5
walk-in	on time	10
walk-in	late	9

Row / column	on time	late	Row total
scheduled	_____	_____	_____
walk-in	_____	_____	_____
Column total	_____	_____	_____

In a recycling station tally, the paired-category ledger says paper and clean: 31; paper and contaminated: 3; plastic and clean: 20; plastic and contaminated: 11. Organize those observations into joint cells and show all row totals, column totals, and the grand total.

Row category	Column category	Records
paper	clean	31
paper	contaminated	3
plastic	clean	20
plastic	contaminated	11

Row / column	clean	contami-nated	Row total
paper	_____	_____	_____
plastic	_____	_____	_____
Column total	_____	_____	_____

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Begin at START. Answer the card, then find the matching final answer at the top of another card. Use the recording sheet for your reasoning. Visit each card once and continue to FINISH.

Incoming: context: a field-day weather log; grand total: 40; missing counts: clear & held: 18; clear & moved indoors: 0; cloudy & held: 7

In a bakery order sample, this partial display keeps the margins from the original count: order by pickup table; custom: weekday=?, weekend=?; standard: weekday=?, weekend=13; row totals custom: 25, standard: 35; column totals weekday: 31, weekend: 29. Recover every question mark and verify the grand total two ways.

Row / column	weekday	weekend	Row total
custom	_____	_____	25
standard	_____	13	35
Column total	31	29	60

Your response: _____

Incoming: context: a help-desk case log; correct row totals: 45, 20; possible: False

The cells in a recreation survey are team by season table; school: fall=13, winter=17, spring=10; community: fall=9, winter=12, spring=19, but the reported row totals are school: 41, community: 40 while the column totals are fall: 22, winter: 29, spring: 29. Decide whether a completion is possible and identify the contradiction.

Row / column	fall	winter	spring	Row total
school	13	17	10	41
community	9	12	19	40
Column total	22	29	29	80

Your response: _____

Incoming: context: a fitness-class register; correct row totals: 20, 20, 20; possible: False

For a commuter survey, travel mode by shift table; bus: early=18, late=7; bike: early=9, late=16. Find the full-sample relative frequency of bus together with late; give an exact fraction and a percent, and state the denominator population.

Row / column	early	late	Row total
bus	18	7	25
bike	9	16	25
Column total	27	23	50

Your response: _____

Incoming: context: a book-format poll; correct row totals: 30, 35; possible: False

The cells in a lab-section roster are section by submission table; morning: early=7, on deadline=13; afternoon: early=11, on deadline=14; evening: early=9, on deadline=16, but the reported row totals are morning: 21, afternoon: 25, evening: 25 while the column totals are early: 27, on deadline: 43. Decide whether a completion is possible and identify the contradiction.

Row / column	early	on deadline	Row total
morning	7	13	21
afternoon	11	14	25
evening	9	16	25
Column total	27	43	70

Your response: _____

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Evaluate the supplied statement or method. Say whether it is correct, repair it if it is not, and verify the result exactly. Not every prompt contains an error.

For a two-by-two version of a commuter survey, row totals are bus: 25, bike: 25 and column totals are early: 27, late: 23. Find every attainable integer value of the bus and early cell.

Row / column	early	late	Row total
bus	_____	_____	25
bike	_____	_____	25
Column total	27	23	50

For a two-by-two version of a library checkout audit, row totals are fiction: 37, nonfiction: 33 and column totals are student: 35, adult: 35. Construct one valid table that is not forced to match the original joint cells. Choose a method before constructing the table: leave one joint cell free and use all the given margins with nonnegative integer counts, or assume the full-sample total uniquely fixes every cell. Justify the choice and complete the original construction or range determination.

Row / column	student	adult	Row total
fiction	_____	_____	37
nonfiction	_____	_____	33
Column total	35	35	70

Two-Way Frequency Tables

Full Worked Solutions - excerpt

Worked example

Problem. A record from a campus transportation count has grand total 100 ; a report rounds the joint percentage for walk and Friday to 15% to the nearest whole percent. Recover exactly what count information is justified, enforce integer feasibility, and do not use a subgroup denominator.

Answer. context: a campus transportation count; possible counts: 15 ; unique: True

Explanation and check.

Counts must be integers whose percentages round to 15% ; testing the rounding interval gives 15 as the possible count set, so the rounded report does identify one exact count.

Worked example

Problem. For a two-by-two version of a clinic appointment review, row totals are scheduled: 31 , walk-in: 19 and column totals are on time: 36 , late: 14 . Test the proposed scheduled and on time count 33 and explain whether any table can satisfy it.

Row / column	on time	late	Row total
scheduled	_____	_____	31
walk-in	_____	_____	19
Column total	36	14	50

Answer. feasible interval: 17 , 31 ; possible: False; proposed: 33

Explanation and check.

The proposed count 33 exceeds the fixed-margin upper bound 31 ; it would force a negative remainder, so no table exists.