

Algebra 1
Two-Way Tables & Conditional Frequencies | Algebra 1 | 2-Topic Bundle

2-topic bundle | 192 problems | Four activity formats

- 01 Two-Way Frequency Tables**
View individual product and its full preview
- 02 Conditional Relative Frequency**
View individual product and its full preview

In every topic

Answer Bank Challenge	24 tasks
Grid Rounds	24 tasks
Match & Move	24 cards
Error Analysis & Strategy	24 tasks
Quick Answer Key and Full Worked Solutions	included
Teacher / Parent Use Guide and Terms of Use	included

Product previews

The following preview pages show the cover, all four activity formats, and worked examples for each included resource, in the listed order.

16 PDFs and 2 READMEs; 158 buyer PDF pages across the 2 products.
Preview pages are not included in the buyer page count. Check the list against resources you already own.

Algebra 1
Two-Way Frequency Tables

Two-Way Frequency Tables | A1-U10-P15

96 problems · Four activity formats

01	Answer Bank Challenge	24 tasks
02	Grid Rounds	24 tasks
03	Match & Move	24 cards
04	Error Analysis & Strategy	24 tasks
05	Quick Answer Key	96 answers
06	Full Worked Solutions	96 solutions
07	Teacher / Parent Use Guide	included
08	Terms of Use & License	included

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

Two-Way Frequency Tables

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: _____

Algebra 1

Two-Way Frequency Tables

Name: _____ Date: _____ Class: _____

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	_____	_____	_____

Algebra 1

Two-Way Frequency Tables

Name: _____ Date: _____ Class: _____

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: _____

Algebra 1

Two-Way Frequency Tables

Name: _____ Date: _____ Class: _____

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.

Algebra 1
Conditional Relative Frequency

Conditional Relative Frequency | A1-U10-P16

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Topic focus
Across 96 tasks this topic asks for conditional frequency with named reference group.
8 PDFs and a README; 82 buyer pages.

Algebra 1

Conditional Relative Frequency

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 library reminder experiment: reminder by return; email: on time=26, late=14; paper: on time=15, late=15. among email, what proportion are late? Give a fraction and percent, and name the subgroup total used as denominator.

reminder by return (counts)

reminder	on time	late	Total
email	26	14	40
paper	15	15	30
Total	41	29	70

Bank label: _____

Use a library reminder experiment: reminder by return; email: on time=26, late=14; paper: on time=15, late=15. among on time, what proportion are paper? Give a fraction and percent, and name the subgroup total used as denominator.

reminder by return (counts)

reminder	on time	late	Total
email	26	14	40
paper	15	15	30
Total	41	29	70

Bank label: _____

Use a music-class practice poll: instrument group by practice goal; strings: reached=33, missed=7; winds: reached=24, missed=16. among strings, what proportion are missed? Give a fraction and percent, and name the subgroup total used as denominator.

instrument group by practice goal (counts)

instrument group	reached	missed	Total
strings	33	7	40
winds	24	16	40
Total	57	23	80

Bank label: _____

Use a music-class practice poll: instrument group by practice goal; strings: reached=33, missed=7; winds: reached=24, missed=16. among reached, what proportion are winds? Give a fraction and percent, and name the subgroup total used as denominator.

instrument group by practice goal (counts)

instrument group	reached	missed	Total
strings	33	7	40
winds	24	16	40
Total	57	23	80

Bank label: _____

Algebra 1

Conditional Relative Frequency

Name: _____ Date: _____ Class: _____

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.

Use a mentoring-program review: meeting format by goal status; online: met=18, not met=12; in person: met=28, not met=12. among online, what proportion are not met? Give a fraction and percent, and name the subgroup total used as denominator.

meeting format by goal status (counts)

meeting format	met	not met	Total
online	18	12	30
in person	28	12	40
Total	46	24	70

Use a mentoring-program review: meeting format by goal status; online: met=18, not met=12; in person: met=28, not met=12. among met, what proportion are in person? Give a fraction and percent, and name the subgroup total used as denominator.

meeting format by goal status (counts)

meeting format	met	not met	Total
online	18	12	30
in person	28	12	40
Total	46	24	70

Use a transit-pass survey: pass type by commute result; monthly: on time=24, late=6; single ride: on time=18, late=12. among monthly, what proportion are late? Give a fraction and percent, and name the subgroup total used as denominator.

pass type by commute result (counts)

pass type	on time	late	Total
monthly	24	6	30
single ride	18	12	30
Total	42	18	60

Use a transit-pass survey: pass type by commute result; monthly: on time=24, late=6; single ride: on time=18, late=12. among on time, what proportion are single ride? Give a fraction and percent, and name the subgroup total used as denominator.

pass type by commute result (counts)

pass type	on time	late	Total
monthly	24	6	30
single ride	18	12	30
Total	42	18	60

Algebra 1

Conditional Relative Frequency

Name: _____ Date: _____ Class: _____

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: For a delivery-window review: First conditional rate: $\frac{3}{5}$ (60.0%). Reversed conditional rate: $\frac{8}{17}$ (47.06%).

From a museum-ticket survey, ticket by tour; member: joined=12, not joined=8; visitor: joined=18, not joined=42. Compare 'among member, the share that are joined' with 'among joined, the share that are member.' Compute both or mark an undefined condition, then explain the denominator change.

ticket by tour (counts)

ticket	joined	not joined	Total
member	12	8	20
visitor	18	42	60
Total	30	50	80

Your response: _____

Incoming: context: a follow-up clinic audit; denominator: 40; given: text; numerator: 32; target: replied

In a tutoring attendance study, translate the statement 'among improved, the share that are morning' into a precise conditional statement. Name the target category, the given reference group, and the subgroup denominator; do not reverse them.

session by assessment (counts)

session	improved	unchanged	Total
morning	21	9	30
evening	16	24	40
Total	37	33	70

Your response: _____

Incoming: For a coding-club challenge log: First conditional rate: $\frac{9}{10}$ (90.0%). Reversed conditional rate: $\frac{3}{7}$ (42.86%).

From a pilot survey with no evening respondents, survey time by choice; evening: option A = 0, option B = 0; daytime: option A = 12, option B = 8. Compare 'among evening, the share that are option A' with 'among option A, the share that are evening.' Compute both or mark an undefined condition, then explain the denominator change.

survey time by choice (counts)

survey time	option A	option B	Total
evening	0	0	0
daytime	12	8	20
Total	12	8	20

Your response: _____

Incoming: For a produce-inspection report: First conditional rate: $\frac{19}{20}$ (95.0%). Reversed conditional rate: $\frac{38}{83}$ (45.78%).

From a library reminder experiment, reminder by return; email: on time=26, late=14; paper: on time=15, late=15. Compare 'among email, the share that are on time' with 'among on time, the share that are email.' Compute both or mark an undefined condition, then explain the denominator change.

reminder by return (counts)

reminder	on time	late	Total
email	26	14	40
paper	15	15	30
Total	41	29	70

Your response: _____

Algebra 1

Conditional Relative Frequency

Name: _____ Date: _____ Class: _____

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.

From a mentoring-program review, meeting format by goal status; online: met= 18, not met= 12 ; in person: met= 28, not met= 12 . Compare 'among online, the share that are met' with 'among met, the share that are online.' Compute both or mark an undefined condition, then explain the denominator change.

meeting format by goal status (counts)

meeting format	met	not met	Total
online	18	12	30
in person	28	12	40
Total	46	24	70

From a transit-pass survey, pass type by commute result; monthly: on time= 24, late= 6 ; single ride: on time= 18, late= 12 . Compare 'among monthly, the share that are on time' with 'among on time, the share that are monthly.' Compute both or mark an undefined condition, then explain the denominator change.

pass type by commute result (counts)

pass type	on time	late	Total
monthly	24	6	30
single ride	18	12	30
Total	42	18	60

Conditional Relative Frequency

Full Worked Solutions - excerpt

Worked example

Problem. Design a two-by-two count table for two device groups with subgroup totals 30 and 45: make the first group's exact target rate 33%. Give target and complement counts, or prove integer impossibility, and verify both row totals.

Group	target outcome	Complement	Given subgroup total
group one	_____	_____	30
group two	_____	_____	45

Answer. For two device groups: Impossible with integer counts for subgroup totals 30 and 45.

Explanation and check.

An exact 33% of 30 would require $\frac{99}{10}$ observations, which is not an integer; therefore no count table can meet the condition.

Worked example

Problem. Design a two-by-two count table for two membership groups with subgroup totals 28 and 35: make the first group's exact target rate 45%. Give target and complement counts, or prove integer impossibility, and verify both row totals.

Group	target outcome	Complement	Given subgroup total
group one	_____	_____	28
group two	_____	_____	35

Answer. For two membership groups: Impossible with integer counts for subgroup totals 28 and 35.

Explanation and check.

An exact 45% of 28 would require $\frac{63}{5}$ observations, which is not an integer; therefore no count table can meet the condition.