

Practice

Circle and label marginal frequencies and either joint frequencies or conditional frequencies.

1.

	Smart Phone	No Smart Phone	Total
Boys	15	10	25
Girls	19	6	25
Total	34	16	50

HINT A two-way frequency table has joint frequencies and marginal frequencies.

→ joint
→ marginal

2.

	Smart Phone	No Smart Phone	Total
Boys	30%	20%	50%
Girls	38%	12%	50%
Total	68%	32%	100%

→ conditional
→ marginal

Fill in each blank with an appropriate word or phrase.

- A two-way frequency table allows you to organize Categorical data.
- Marginal frequencies are entries in the "Total" row and "Total" column of a frequency table.
- Conditional frequencies are entries in the body of a two-way relative frequency table.
- Given a two-way frequency table, you can find relative frequencies for each row, for each column, or for the entire table.

Use the information and the two-way frequency table for questions 7 and 8.

A group of U.S. history teachers asked students where they would most like to go for an overnight field trip. The table shows the results.

	Washington, D.C.	Williamsburg, VA	Total
Boys	77	28	105
Girls	20	75	95
Total	97	103	200

7. Interpret the marginal frequencies.

97 students want to go to DC and 103 want to go to Williamsburg (105 boys surveyed, 95 girls surveyed)

8. Interpret the joint frequencies.

77 boys want DC, 28 boys want Williamsburg, 20 girls want DC, 75 girls want Williamsburg

percentage

Use the information and the two-way relative frequency table for questions 9 and 10

Byron asked fellow high school students and their parents if they support a proposal to replace the current school food vendor with a new food vendor.

	New Vendor	Current Vendor	Total
Parents	0.36	0.14	0.50
Students	0.24	0.26	0.50
Total	0.60	0.40	1.00

9. Interpret the marginal frequencies.

60% new vendor, 40% current vendor

50% students surveyed, 50% parents surveyed

10. Interpret the conditional frequencies.

36% of parents want new vendors

Students are split on decision

Use this information for question 11.

Twenty students were asked which type of music they like best. Three boys said hip-hop, four boys said jazz, and two boys said rock. Six girls said hip-hop, one girl said jazz, and four girls said rock.

11. Use the grid below to create a two-way frequency table for the data.

	Hip-Hop	Jazz	Rock	Total
Boys	3	4	2	9
Girls	6	1	4	11
Total	9	5	6	20

Relative Frequency

	HH	Jazz	Rock	Total
Boys	15%	20%	10%	45%
Girls	30%	5%	20%	55%
Total	45%	25%	30%	100%

Relative Frequency
by Row

	HH	J	R	T
B	33%	44%	22%	100%
G	54%	9%	36%	100%
T	45%	25%	30%	100%

Relative by
Column

	HH	J	R	T
B	33%	80%	33%	45%
G	67%	20%	67%	55%
T	100%	100%	100%	100%