

Vocabulary

- **Joint Frequency:**

the values in each category

- **Marginal Frequency:**

the totals of each row & each column

Ex. 1: Ronnie is in charge of determining the upcoming after school activity. To determine the type of activity, Rashid asked several students whether they prefer to have a dance or play a game of soccer. As Ronnie collected preferences, he organized the data in the following two-way frequency table:

	Girls	Boys	Total
Soccer	14	40	54
Dance	46	6	52
Total	60	46	106

- a) What observation can you make about the boys?

More boys prefer soccer

- b) What observation can you make about the girls?

More girls prefer the dance

- c) What observation can you make about Dance?

less people want the dance

- d) What observation can you make about Soccer?

*more ~~want~~ people soccer
people want*

Ex. 2: There are 45 total students who like to read books. Of those students, 12 of them like non-fiction and the rest like fiction. Four girls like non-fiction. Twenty boys like fiction.

	Fiction	Nonfiction	Total
Boys	20	8	28
Girls	13	4	17
Total	33	12	45

a) What percentage of boys like fiction?

$$\frac{20}{28} = 71\%$$

b) What percentage of people that like nonfiction are girls?

$$\frac{4}{12} = 33\%$$

c) What percentage of all the people like fiction?

$$\frac{33}{45} = 73\%$$

d) Shade in the marginal frequencies. Leave the joint frequencies white.

Ex. 3: Survey the class to fill in the table.

	McDonalds	Burger King	Total
Boys	12	5	17
Girls	15	2	17
Total	27	7	34

a) What percentage of the class likes Burger King?

$$\frac{7}{34} = 21\%$$

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b) What percentage of the boys like McDonalds?

$$\frac{12}{17} = 71\%$$

c) What percentage of people that like Burger King were girls?

$$\frac{2}{7} = 29\%$$

d) Shade the marginal frequencies. Leave the joint frequencies white.

Ex. 4: The Venn diagram compares 15 roller coasters at an amusement park as to whether or not they are made of steel and whether or not they have loops.



a) Finish labeling the histogram on both axes and titles.

	Steel	No Steel	
Loops	6	4	10
No Loops	2	3	5
	8	7	15

b) What percent of total roller coasters are steel?

$$\frac{8}{15} = 53\%$$

c) What percent of roller coasters that have loops are not steel?

$$\frac{4}{10} = 40\%$$

d) What percent of roller coasters that are steel also have loops?

$$\frac{6}{8} = 75\%$$

e) What percent of roller coasters are neither made of steel or have loops?

$$\frac{3}{15} = 20\%$$