

Two-Way Tables Practice

1) The two-way table below shows the results from a survey of male and female students about whether they prefer Math or Language Arts.

a) **Complete** the two-way table and find the relative frequency (rounded to the nearest hundredth) of male students that prefer math to all male students surveyed. (Hint: find the relative frequencies by row)

		Preference		Total
		Math	LA	
Gender	Males	38	12	
	Females	17	33	
Total				

b) Bill is a new student who just transferred to Berkmar. Is Bill more or less likely to enjoy Math or Language Arts? **Explain** how you know.

2) Juan was curious to discover if middle school students and high school students liked the same gaming consoles. He surveyed 100 students and found the following:

- 27 of the 50 middle school students preferred PS3 over Xbox 360
- 24 of the 50 high school students preferred Xbox 360 over PS3

a) Construct a two-way table for the results.

b) Complete the two-way table and find the relative frequencies (to the nearest hundredth) by column.

c) According to the data, would you say that middle school students and high school students have similar or different preferences? **Why?**

		Preference		Total
		XBox 360	PS3	
School	BMS			
	BHS			
Total				

	Can Swim	Cannot Swim
6th Grade	60	120
7th Grade	20	180
8th Grade	35	265

	% Cannot Swim
6th Grade	
7th Grade	
8th Grade	

3) With summer quickly approaching, teachers were attempting to determine if they need to offer swimming lessons for students. Answer the following questions based off the data:

- How many 8th graders were surveyed?
- By simply looking at the data, which grade would you expect to have the largest percentage of students unable to swim?
- Calculate the percentage (rounded to the percent) of students for each grade that cannot swim and fill in the accompanying table with the results.

#4-5 Use the following situation(s) to construct a two-way table.

4) There were 100 customers in a restaurant that were asked whether they like chicken or beef, and whether they liked rice or pasta. Out of 30 customers that liked rice, 20 liked chicken. There were 60 customers that liked chicken.

	Chicken	Beef	Total
Rice			
Pasta			
Total			

5) As each person entered the theater, Aaron counted how many of the 105 people had popcorn and how many had a drink. He found that out of 84 people that had popcorn, only 10 did not have a drink. Six people walked in without popcorn or a drink.

	Popcorn	No Popcorn	Total
Drink			
No Drink			
Total			

6) Matt wanted to test if a person's intelligence level is in anyway related to their preference for Justin Bieber. Therefore, he surveyed several of his friends by asking them two simple questions:

1. Do you currently possess a B or higher in your math class?
2. Do you currently own a Justin Bieber album?

Matt recorded his data in two t-charts as seen below.

Own a Bieber Album

Don't Own a Bieber Album

A or B	C or Lower

A or B	C or Lower

It wasn't until after he recorded this data that he realized it would be much easier to analyze the data in a two-way table.

Help Matt create a two-way table below to help him answer the following questions.

a) What percentage of his friends own a Justin Bieber album?

b) What percentage of his A/B friends own a Justin Bieber album?

c) How many more of his friends have an A/B in math than a C or lower?

	A or B	C or Lower	Total
Own a Bieber Album			
Don't Own a Bieber Album			
Total			

Two-Way Tables Practice

1) The two-way table below shows the results from a survey of male and female students about whether they prefer Math or Language Arts.

a) **Complete** the two-way table and find the relative frequency (rounded to the nearest hundredth) of male students that prefer math to all male students surveyed. (Hint: find the relative frequencies by row)

$$\frac{38}{50} = .76$$

		Preference		Total
		Math	LA	
Gender	Males	38	12	50
	Females	17	33	50
Total		55	45	100

b) Bill is a new student who just transferred to Berkmar. Is Bill more or less likely to enjoy Math or Language Arts? **Explain** how you know. **Since Bill is a male, he is more likely to enjoy math**

2) Juan was curious to discover if middle school students and high school students liked the same gaming consoles. He surveyed 100 students and found the following:

- 27 of the 50 middle school students preferred PS3 over Xbox 360
- 24 of the 50 high school students preferred Xbox 360 over PS3

a) Construct a two-way table for the results.

b) Complete the two-way table and find the relative frequencies (to the nearest hundredth) by column.

		Preference		Total
		XBox 360	PS3	
School	BMS	23 = .49	27 = .51	50 = .5
	BHS	24 = .51	26 = .49	50 = .5
Total		47 = 1.0	53 = 1.0	100 = 1

c) According to the data, would you say that middle school students and high school students have similar or different preferences? **Why?**

They have pretty similar preferences.

	Can Swim	Cannot Swim
6th Grade	60	120
7th Grade	20	180
8th Grade	35	265

	% Cannot Swim
6th Grade	67%
7th Grade	90%
8th Grade	88%

3) With summer quickly approaching, teachers were attempting to determine if they need to offer swimming lessons for students. Answer the following questions based off the data:

a) How many 8th graders were surveyed? **300**

b) By simply looking at the data, which grade would you expect to have the largest percentage of students unable to swim?

8th (it's not correct)

c) Calculate the percentage (rounded to the percent) of students for each grade that cannot swim and fill in the accompanying table with the results.

#4-5 Use the following situation(s) to construct a two-way table.

4) There were 100 customers in a restaurant that were asked whether they like chicken or beef, and whether they liked rice or pasta. Out of 30 customers that liked rice, 20 liked chicken. There were 60 customers that liked chicken.

	Chicken	Beef	Total
Rice	20	10	30
Pasta	40	30	70
Total	60	40	100

5) As each person entered the theater, Aaron counted how many of the 105 people had popcorn and how many had a drink. He found that out of 84 people that had popcorn, only 10 did not have a drink. Six people walked in without popcorn or a drink.

	Popcorn	No Popcorn	Total
Drink	74	15	89
No Drink	10	6	16
Total	84	21	105

6) Matt wanted to test if a person's intelligence level is in anyway related to their preference for Justin Bieber. Therefore, he surveyed several of his friends by asking them two simple questions:

1. Do you currently possess a B or higher in your math class?
2. Do you currently own a Justin Bieber album?

Matt recorded his data in two t-charts as seen below.

Own a Bieber Album

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A or B	C or Lower

A or B	C or Lower

It wasn't until after he recorded this data that he realized it would be much easier to analyze the data in a two-way table.

Help Matt create a two-way table below to help him answer the following questions.

a) What percentage of his friends own a Justin Bieber album?

52%

b) What percentage of his A/B friends own a Justin Bieber album?

71%

c) How many more of his friends have an A/B in math than a C or lower?

15

	Own Biebs	Don't Own	Total
A/B	50	20	70
C or Lower	15	40	55
Total	65	60	125