

Notes 4.3 – Statistics

Warmup – Calculating Percents

a. 20 is what percent of 85?

$$\frac{20}{85} = .235 \cdot 100 = 23.5\%$$

b. 11 is what percent of 38?

$$\frac{11}{38} = .289 \cdot 100 = 28.9\%$$

c. 15 is what percent of 12?

$$\frac{15}{12} = 1.25 \cdot 100 = 125\%$$

d. 32 is what percent of 45?

$$\frac{32}{45} = .711 \cdot 100 = 71.1\%$$

e. 7 is what percent of 18?

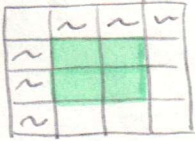
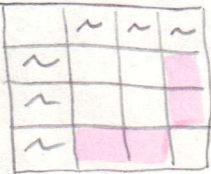
$$\frac{7}{18} = .3888 \cdot 100 = 38.9\%$$

f. 18 is what percent of 50?

$$\frac{18}{50} = .36 \cdot 100 = 36\%$$

g. Part divided by whole times 100 = Percent

Lesson – Joint & Marginal Relative Frequency

Word	Meaning/Notation	Example
Two Way Relative Frequency Table	A frequency table with two variables, and the percent of the total has been calculated	
Joint Frequency	Individual frequencies	
Marginal Frequency	total frequencies	

You will need two different colors of highlighter or color pencil.

Miguel is in charge of planning an afterschool activity. He has narrowed it down to a dance or a soccer game. He decided to poll some students to help him decide which activity to have.

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

	Girls	Boys	Total
Soccer	14/106 13.2%	40/106 37.7%	54/106 50.9%
Dance	46/106 43.4%	6/106 5.7%	52/106 49.1%
Total	60/106 56.6%	46/106 43.4%	100%

1. Calculate the frequencies for the above data and record in the two way frequency table.
2. Highlight the boxes that are used in joint frequency.
3. Highlight the boxes that are used in marginal frequency in a different color.
4. Using the information that you calculated, create an argument for one activity, clearly explaining why you chose that activity.

Always use data from the table to back up your argument.

Use the given data to create a two way frequency table, then calculate the relative frequencies, finally make three observations and a conclusion about the table.

5. Data: There are 45 total students who chose reading as a favorite activity. Of those students, 12 of them like non-fiction and the rest like fiction. Four girls like non-fiction. Twenty boys like fiction.

	Fiction		Non-fiction		Total	
	Amount	Percent	Amount	Percent	Amount	Percent
Boys	20	20/45 44.4%	8	8/45 17.8%	28	28/45 62.2%
Girls	13	13/45 28.9%	4	4/45 8.9%	17	17/45 37.8%
Total	33	33/45 73.3%	12	12/45 26.7%	45	100%

Highlight the joint and marginal frequencies using the same colors as in the earlier table.

5. Observation 1:
 Observation 2:
 Observation 3:

} these should be specific

What conclusion could you make about the data?

Refer back to data

6. Data: 35 seventh graders and 41 eighth graders completed a survey about the amount of time they spend on homework each night. 50 students said they spent more than an hour. Twelve eighth graders said they spend less than an hour each night.

Use the table from #5 to help you fill in this table.

	< 1 hour		> 1 hr		Total	
	Amount	Percent	Amount	Percent	Amount	Percent
7 th	14	$\frac{14}{76}$ 18.4%	21	$\frac{21}{76}$ 27.6%	35	$\frac{35}{76}$ 46.1%
8 th	12	$\frac{12}{76}$ 15.8%	29	$\frac{29}{76}$ 38.2%	41	$\frac{41}{76}$ 53.9%
Total	26	$\frac{26}{76}$ 34.2%	50	$\frac{50}{76}$ 34.2%	76	100%

- Observation 1:
 Observation 2:
 Observation 3:

} be specific

What conclusion could you make about the data?

Refer back to data