

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Hr: \_\_\_\_\_

**Unit 2 Day 2: Count vs Relative Frequency**

Focus Question: How do I answer questions about relative frequency?

A. Jacobson Revisited:  
At Jacobson Junior High, students voted for student council president. The results are shown below. 125

Candidate	Grade 7	Grade 8	Grade 9
Zoe	45	20	60
Alessandro	30	60	90
Total	75	80	150

1) Which of the following statements are true? Select all that apply.

(a) Twice as many 8<sup>th</sup> graders voted for Alessandro as 7<sup>th</sup> graders.  $\frac{7^{th}}{30}$   $\frac{8^{th}}{60}$   
True

(b) 9<sup>th</sup> graders were three times as likely to vote for Alessandro as 7<sup>th</sup> graders.  $\frac{9^{th}}{90} = 60\%$   $\frac{7^{th}}{75} = 40\%$   
not true

c) More than half of Zoe's votes came from 9<sup>th</sup> graders. Zoe's votes = 125  
 $\frac{9^{th}}{90}$  9<sup>th</sup> graders who voted for Zoe = 60  
not true

(d) 8<sup>th</sup> graders were more likely to vote for Alessandro than 9<sup>th</sup> graders.  $\frac{9^{th}}{90} = 60\%$   $\frac{8^{th}}{80} = 75\%$   
True

e) Alessandro received more votes from 9<sup>th</sup> graders than Zoe received total votes. 90 not true 125

Three of the choices above asked just about the count and you could use the numbers directly from the chart. Two of them required you to find percentages.

- Which two required a percentage? b & d
- What do those two statements have in common?  
The word "likely"

If the statement says the word likely you HAVE TO find percentages because it indicates a PROBABILITY. They will usually use this word to trick you. We'll talk about how it can fool you tomorrow.

**B. Relative Frequency**

"Relative" means that you need to compare your number to a given group. For each question, indicate what group the question is "relative" to.

- What percent of adults said pizza was their favorite food? denom numerator
- What percent of people who like burgers are adults? denom numerator

A careful reading of the question is important because the group determines your denominator when finding the percent the question is requesting.

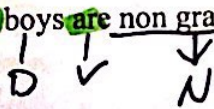
What word sets off the "group" or denominator to use? of What word tells you the group is done being named? the verb

C. Practice Finding Percent

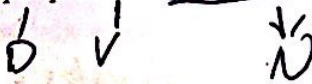
6<sup>th</sup> grade students were surveyed about whether or not they had graduated from a manners program run by the local youth center.

Students	Graduates	Not graduates	Total
Boys	16	29	45
Girls	13	12	25
Total	29	41	70

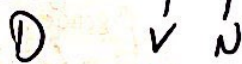
- Complete the table
- What percent of boys are non graduates?



- What percent of people were girls who graduated?



- What percent of non-graduates are girls?



8<sup>th</sup> graders at Lincoln Junior High were surveyed about how they get home from school.

	Male	Female	Total
Walk	42	46	88
Car	20	20	40
Bus	15	12	27
Bike	52	17	69
Total	129	95	224

- Complete the table.

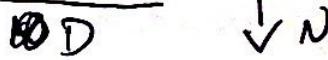
- How many 8<sup>th</sup> graders were surveyed?

224

- What percent of 8<sup>th</sup> grade girls walk home from school?

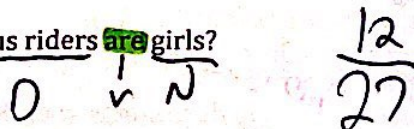
$$\frac{46}{95} \approx 48.4\%$$

- What percentage of 8<sup>th</sup> graders are boys who bike home?



$$\frac{52}{129} \approx 40.3\%$$

- What percentage of bus riders are girls?



$$\frac{12}{27} \approx 44.4\%$$