## Problem Set 7.1

<ol> <li>Give an example of an event with: (and be prepared to share and discuss in the nex</li> </ol>	t class)
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a) relative frequency = 1 - Plusing 10 red skittles in a bowl of only red skittle
- Flipping either heads or tails
on a fair coin. Answers will vary

Answers will vary

Answers will vary

A Human will live furever

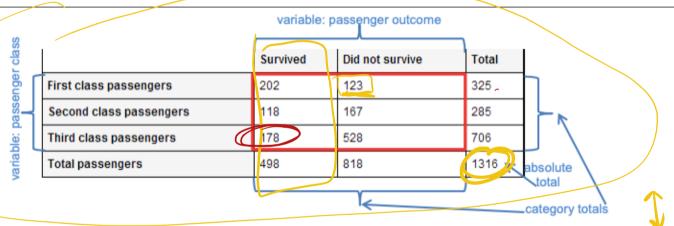
Frygore in FST fell asleep at

the exact same time on 3/14/2020.

2.) The data below describes passenger survival from the Titanic. (note, the data excludes crew members). One of the reasons there were so many fatalities was that for aesthetic reasons the ship did not carry enough lifeboats for its capacity. There was only room for a maximum of 52.9% of the boat's population in the lifeboats, but the survival rate was much less

Source: The Real Reason for the Tragedy of the Titanic. The Wall Street Journal, n.d. Web. 2 Mar. 2013.

This data is organized in a **two-way table** – a table that classifies data based on possible categories for two different variables at the same time, one by rows and one by columns. It also includes the totals for each category and an absolute total.



Data Table Source: Common Core State Standards - Illustrations. Illustrative Mathematics, n.d. Web. 27 Feb. 2013. <a href="http://www.illustrativemathematics.org/illustrations/949">http://www.illustrativemathematics.org/illustrations/949</a>>.

a) What is the sum of the numbers in the red box? Why?

1316 - total # of passengers on the titantic

b) What does the number 498 in the bottom row represent?

total passengues that surrived

c) What is the relationship between the four numbers in the last column?

All totals -> First 3 rows is total passengues in each class and last one is total in all.

d) What's wrong with this question: "What is the probability that any passenger survived?"

The event happened in the past - so not probability

e) Does this table give relative frequencies? Explain.

No. but you could find relative frequencies from the table.

f) What was the relative frequency of survival?



g) What was the relative frequency of third-class passengers on the ship?

h) What was the relative frequency of third-class survivors?



i) If we only consider survivors, what was the relative frequency of third-class passengers?

j) Which is bigger between your answers for h and i? Why? .

i is bigger blc if is looking at a smaller portion of people so smaller denominators makes rate bigger

k) Did class of passenger affect the likelihood of survival? Justify your answer with calculations, and if it did, provide a possible reason why that may have been the case.

$$202/325 = 0.622$$
  
 $1181285 = 0.414$   
 $178/706 = 0.357$ 

(I) Give one other example of other types of questions about relative frequency that can be answered with this table and answer your question. Show your work.

Answers will vary.

Ex. give relative frequency of passengers who did not survive me titantic.

3) The table shows the relative frequencies of the ages of the students at Porter Gaud High School. If a student is randomly selected from this school, find the probability that



a) the student is 15 years old

b) the student is 16 years of age or older

There are 1200 students at Porter Gaud High School.

c) Calculate the number of 15 year old students.

0.23	(1200)=	= 274	studen	15
	Total			

Age (in years)	Relative Frequency	
13	0.11	
14	0.30	
15	0.23	
16	0.21	
17	0.15	
Total	1	