## Mth 102 – General Education Statistics – Practice Exam 1 Solutions

- 1. This statistic is *descriptive*, since we are only stating the average of this class. In order for the statistic to be inferential, we would need to make some statement about a larger group based on this sample.
- 2. The wording here is a little tricky, since the news article makes a claim that doesn't seem to go with the data, but it is definitely *inferential*. Here, the article takes data from a survey, and then makes a claim about "most Americans".
- 3. SB, SI, ST, SC, BI, BT, BC, IT, IC, TC (there should be 10 total)
- 4. First, we need to number the tax returns how that numbering is done is not important. Second, we should select a random number to start. Since 191/17 rounds down to 11, we should use our calculator to find a random number between 1 and 11, and the select every 11<sup>th</sup> tax return after that.
- 5. This is a *designed experiment*, because we are controlling the amount of aerobic exercise.

6.

- a. exam scores
- b. some examples: amount of time studying, intelligence, diet, number of hours worked outside of class, previous knowledge of the material
- c. attendance either attending class or studying outside of class
- 7. No it does not represent all ECC students. We are missing out on classes in other fields, evening classes, weekend classes, etc.

8.

- a. quantitative it is a numerical value with meaning
- b. qualitative hair color is a "quality"
- c. quantitative again, it is a numerical value with meaning
- d. quantitative this is again a number
- e. qualitative gender is a "quality"

9.

- a. discrete we "count" points, so they are countable
- b. discrete again, these are countable
- c. continuous an infinite uncountable number of options
- d. discrete even though it represents a length, there are only a certain number of shoe *sizes*
- e. continuous time is measured, and therefore has an infinite and uncountable number of choices

10.

- a. systematic we select every  $100^{th}$
- b. cluster the plots are the cluster, and each plot represents the entire park

11.

12. Since the total is 30,464, the chart becomes:

	Number	
Region	(in thousands)	Frequency
Europe	4772	0.157
Asia	8364	0.275
Africa	840	0.028
Oceania	180	0.006
Latin America	15,472	0.508
North America	836	0.027



13. I don't have the right symbol here, so I'm just using the closest thing I could find.

frequency

a.			
	% divorcing	number	
	$0 \prec 10$	3	
	$10 \prec 20$	12	
	20 ~ 30	6	
	$30 \prec 40$	5	
	$40 \prec 50$	8	
	50 <i>≺</i> 60	5	
	<u>60 ≺ 70</u>	6	

b. The distribution shape is kind of difficult to see. I could see an argument for skewed right, or bimodal. Others might be acceptable as well.



percentage of marriages ending in divorce

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0	567
1	22233578889
2	145668
3	45899
4	01133569
5	23566

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