

Show all work.

Simplify your answer.

Circle your answer.

No books, no calculators, no cell phones, no pagers, no electronic devices of any kind.

Name _____

Circle your Discussion Section:

343	T	12:05--12:55	1412 STERLING
344	R	12:05--12:55	1327 STERLING
345	T	13:20--14:10	1327 STERLING
346	R	13:20--14:10	55 BASCOM

Problem	Points	Score
1	10	
2	10	
3	10	
4	10	
5	10	
6	10	
7	10	
Total	70	

Solutions will be posted shortly after the exam: www.math.wisc.edu/~miller/m210

1. (10 pts)

Let $A = \{1, 2, 3\}$, $B = \{1, 3, 6\}$ and $C = \{4, 5\}$. Find

$$(A \cap B) \cup C$$

2. (10 pts)

X, Y, Z are subsets of a universal set U . Draw a Venn diagram to illustrate the set

$$(X \cap Y) \cup Z'$$

3. (10 pts)

The staff at the zoo ask visitors to complete a survey. The results were 215 went to the elephant house and 285 went to monkey house. If 190 went to both how many visited only one of the two?

4. (10 pts)

A die is weighted so that throwing a 1,3, or 5 are equally likely; throwing a 1 is a third as likely as throwing a 2,4, or 6; and these are equally likely. What probabilities should be assigned to each possible outcome?

5. (10 pts)

A bank robber can 'visit' four banks in each of the towns, Monroe, Jefferson, Stoughton, Oregon, and Fitchburg. He plans to pick a town and then a bank and rob it on Friday and for Saturday he will pick a different town and then a bank in it to rob. How many ways can he do this?

6. (10 pts)

The department of mathematics has eight men and six women faculty. A committee of five is to be formed to look into the question of why women are under represented in the math department. If the committee is to have three men and two women on it, in how many ways can it be chosen?

7. (10 pts)

A hat contains four nickels, two dimes, and five quarters. If three coins are randomly chosen from the hat, what is the probability that all three are quarters?

Answers

1. $\{1, 3, 4, 5\}$

3. 120

4. $Pr(1) = Pr(3) = Pr(5) = 1/12$ $Pr(2) = Pr(4) = Pr(6) = 1/4$

5. 320

6. 840

7. $2/33$