

Table Number: _____

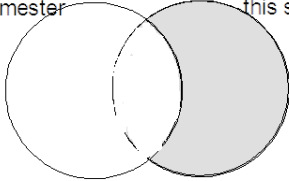
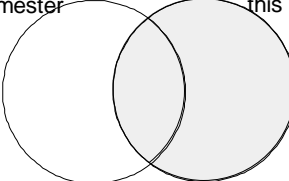
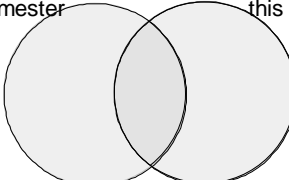
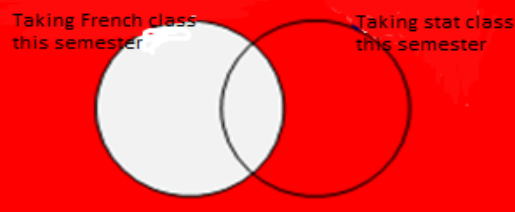
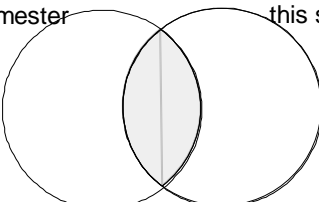
Group Name: _____

Group Members: _____

Venn Diagrams, Complements, Two-way tables

REVIEW OF VENN DIAGRAMS

MATCH each statement with the correct Venn diagram. Then use proper set notation (intersection, union, complement) to symbolize the result. Let F = taking French and S = taking Stats.

	Write letter of the correct diagram below	Symbolic Notation
<p>A.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Taking French class this semester</p>  </div> <div style="text-align: center;"> <p>Taking Stat class this semester</p> </div> </div>	<p>1. Taking French class and Stat class</p>	<p>1.</p>
<p>B.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Taking French class this semester</p>  </div> <div style="text-align: center;"> <p>Taking Stat class this semester</p> </div> </div>	<p>2. Not taking French class (the complement of taking French)</p>	<p>2.</p>
<p>C.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Taking French class this semester</p>  </div> <div style="text-align: center;"> <p>Taking Stat class this semester</p> </div> </div>	<p>3. Taking Stat class</p>	<p>3.</p>
<p>D.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Taking French class this semester</p>  </div> <div style="text-align: center;"> <p>Taking stat class this semester</p> </div> </div>	<p>4. Taking Stat class and not French</p>	<p>4.</p>
<p>E.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Taking French class this semester</p>  </div> <div style="text-align: center;"> <p>Taking Stat class this semester</p> </div> </div>	<p>5. Taking French class or Stat class</p>	<p>5.</p>

PRACTICE WITH SET NOTATION

Suppose the events A, B, and C are defined as follows, where the experiment involves choosing a random integer from 1 to 12 inclusive. Let $A = \{1,2,3,4,5,6,7,8\}$, Let $B = \{6,7,8,9,10,11,12\}$, and Let $C = \{11,12\}$ where the sample space (universal set) is $U = \{1,2,3,4,5,6,7,8,9,10,11,12\}$. List the elements of each of the following.

1. $A \cap B$
2. $A \cup B$
3. A or B
4. not A
5. B^c
6. B and C
7. $(B \cap C)^c$
8. $(A \cup B)^c$
9. $B \cap A^c$
10. $B^c \cup C^c$
11. Are any two events mutually exclusive? If so, which?
12. Are any two events complementary? If so, which?

SKETCH A VENN DIAGRAM TO ILLUSTRATE THE GIVEN FACTS ABOUT A GROUP OF 90 MUSICIANS.

- a) 12 musicians played in the marching band and played the trumpet;
- b) 18 musicians played the trumpet;
- c) 75 musicians played in the marching band.

- How many musicians were neither in the marching band nor played the trumpet?
- How many musicians were not in the marching band?

PRACTICE READING TWO-WAY TABLES

Students at a local high school were surveyed about their most frequent method of transportation to school. The results are given in the table below.

	Freshman	Sophomore	Junior	Senior
Walk to school	38	10	54	10
Bike to school	80	94	35	66
Drive to school	75	150	125	170
Take a bus to school	194	85	60	4
Other	13	11	26	0

1. Name a pair of mutually exclusive events.
2. How many sophomores drive to school?
3. How many juniors participated in the survey?
4. How likely is it that a randomly selected person who took the survey is a junior and bikes to school?
5. How likely is it that a sophomore drives to school?
6. How many students in the survey walk to school?
7. How many students are freshman or take a bus to school?
8. How many students are juniors and bike to school?
9. How many students from the survey walk to school or are seniors?
10. How many students from the survey are freshman or seniors?
11. Are any TWO of the events in the table complementary? If so, which?
12. What is the complement of “is a sophomore or is a junior?”
13. What is the complement of “takes a bus to school” or “bikes to school?”
14. How many students participated in the survey?
15. How likely is it that a student who drives to school is a freshman?
16. How likely is it that a randomly selected person from the survey drives to school and is a freshman?
17. How likely is it that a randomly selected person from the survey is a sophomore?
18. How likely is it that a randomly selected person from the survey takes a bus to school?
19. How likely is it that a randomly selected person is a junior or senior?
20. How likely is it that a randomly selected person drives to school or is a sophomore?

