3.1 Days 1 and 2 Practice

Name: _____
Date: _____

Answer the following questions, showing all work:

1. For the following scenario, identify the sample space: Rolling a 6-sided number cube once and spinning the following spinner (red, yellow, blue, green):

1. _____

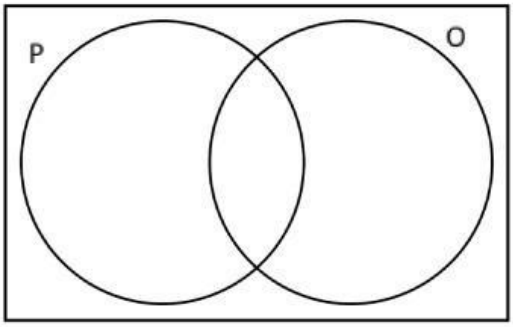
2. For the following scenario, identify the sample space: Selecting 3 students from a class of juniors and seniors, and identifying the class level for each. Build a tree diagram.

2. Sample space: _____

3. For the following: identify the sample space: Rolling 2 7 sided number cubes and adding the results (ex. A 1 and a 6 is an outcome of 7)

3. Sample Space: _____

4. For the following Venn diagram, answer the following questions:
A survey was taken of all Prob Stat students. The questions asked were, "Do you love Probability and Statistics?" and "Do you love any other class?" Event P is that the students loved Probability and Statistics, and event O is that the student loved any other class. Out of 210 students, fifteen students reported loving both Prob Stat and another class. A total of 49 students love another class besides Prob Stat, and 100 students do not love either class. Label the Venn Diagram below.



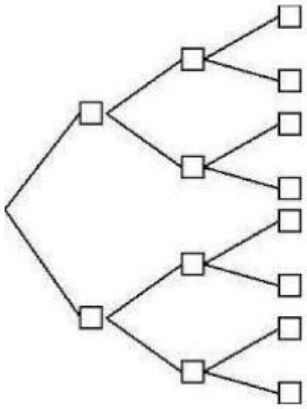
5. You must pick an elective course to take in college. You must choose one course from each of the following categories: Economics, Lab Sciences, Mathematics, or World Language. Economics has 5 courses to choose from, Lab Sciences has 3 courses to choose from, Mathematics has 7 courses to choose from, and World Language has 8 courses to choose from. How many options do you have?

5. _____

6. To unlock a secret safe, you must use a particular sequence of numbers. The numbers range from 1 to 30 and may not be repeated. There are 5 numbers in the code. How many possible sequences are there?

6. _____

7. Build a tree diagram for the following: You need to select colored beads from a jar. The jar contains blue and red beads. You are selecting one at a time with replacement, until you have 3 beads. There are equal number of each color in the jar.



8. Circle the type of probability represented in the following:

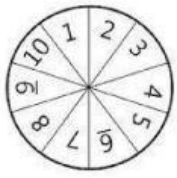
a. The probability of the Eagles winning the Super Bowl this year is 20%.

Circle one: Subjective Empirical/Experimental Classical/Theoretical

b. Rolling a number cube 200 times and recording the proportion of 6's obtained.

Circle one: Subjective Empirical/Experimental Classical/Theoretical

c. Finding the probability of spinning an odd number on this spinner:



Circle one: Subjective Empirical/Experimental Classical/Theoretical

9. Two 6 sided number cubes are thrown. Find the following probabilities using the sample space:

a. P(sum is 8) = _____

b. P(sum is odd)=_____

c. P(sum is prime)=_____

d. P(sum is at least 10)=_____

10. Find the probabilities for the following spinner, which lists dinner options (Chinese, Breakfast, Chicken, Leftovers, Tacos, Salad, Seafood, Pizza, Pasta, Cereal):

- P (Dinner option begins with the letter "C"):

_____

- P (Dinner option has 9 letters in it):

_____

11. Find the complements of the following events:

a) Event A is that you drive to school today.

Complement: A^c: _____

b) Event B is that today is your birthday.

Complement: B^c: _____

c) Event C is that you get a 90 or above in Prob Stat this year.

Complement: C^c: _____

d) Event D is that you make at least one of ten free throw attempts.

Complement: D^c: _____

12. The following results were obtained from 50 survey question responses:
Do you like pizza? Yes or no.
Which math class was your favorite? Alg 1 Alg 2 Geometry

The responses were as follows:

	Algebra 1	Algebra 2	Geometry	Total
Likes Pizza	15	10	4	
Doesn't like pizza	11	10	0	
Total				

Use the table to answer the following questions:

A random survey respondent was selected. Find the probability that:

a) The person likes Pizza and Algebra 1? _____

b) The person likes Pizza and Geometry? _____

c) The person's favorite math class was either Algebra 1 OR Algebra 2?

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d) The person doesn't like pizza and does like Geometry?

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