SAMPLE PROBABILITY QUESTIONS:

1) A bag contains 7 blue, 5 purple, 12 red, and 6 orange marbles. Find each probability if you draw one marble at random from the bag. Write as a fraction in simplest form.

a) P(purple) b) P(red or orange) c) P(not blue)

2) You roll a standard number cube (six sides numbered 1 – 6). After one roll, answer the following:

a) P(3 or 4) b) P(even #) c) P(not 2)

3) Fill in the following information about a standard deck of cards:

TOTAL # of Cards: ____

# of Hearts(♥): ____
# of Diamonds(♦): ____
# of Clubs(♣): ____
# of Spades(♠): ____

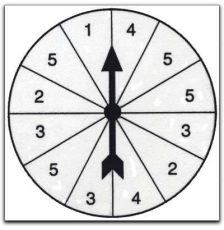
# of Red Cards: ____
# of Black Cards: ____

Cards in Each Suit: _____

Now, given the above, answer the following:

a) P(Ace) b) P(red card) c) P(Red King) d) P(Club)

4) Given the spinner to the right, answer the following:



a) P(5) b) P(odd #) c) P(2 or an odd #)

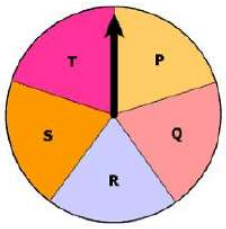
SAMPLE "EXPERIMENTAL" PROBABILITY QUESTIONS:

5) Mike was practicing basketball shots. **Out of 24** attempts, he **made 21 baskets**. **Based on this rate**, what is the probability that Mike's next shot will go in the basket?

6) Jane was throwing darts. Out of **12 attempts, 3 were bulls-eyes**. If Jane were to make **36 attempts**, how many ***should*** be bulls-eyes?

7) A coin was flipped fifty times. **Out of 50**, it landed on **heads 30 times**. What is the **experimental probability** that the coin will land on heads on the next toss? How is this different from the **theoretical probability**?

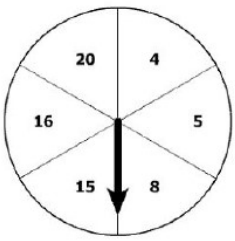
8) The spinner shown has 5 sections of equal size. The arrow of this spinner was spun **20 times** and landed on the section labeled **"R" 7 times**. Compare the ***theoretical probability*** with the ***experimental probability*** of the spinner landing on "R."



9) The table shown depicts the results of **50 rolls** of a fair number cube numbered 1 – 6. According the table, what was the ***experimental probability*** of **rolling a 3** ?

Number	Frequency
1	8
2	9
3	5
4	15
5	2
6	11

10) The arrow of this spinner was spun **40 times**. On **25 out of 40 times**, the arrow landed on a section labeled with a multiple of 4. What was the ***experimental probability*** of the arrow landing on a section labeled with a multiple of 4?



NAME:_____ DATE: ____/____/____

MATH-7 PRACTICE/ HOMEWORK

"THEORETICAL VERSUS EXPERIMENTAL PROBABILITY"

Amanda used a standard deck of 52 cards and selected a card at random. She recorded the suit of the card she picked, and then replaced the card. The results are in the table below.

Diamonds	𝍸 ||
Hearts	𝍸 ||||
Spades	𝍸 𝍸 |
Clubs	|||

First, you need to count how many times she picked a card (look at tallies).

1. Based on her results, what is the experimental probability of selecting a heart?

2. What is the theoretical probability of selecting a heart?

3. Based on her results, what is the experimental probability of selecting a diamond or a spade?

4. What is the theoretical probability of selecting a diamond or a spade?

5. Compare these results, and describe your findings.

6. Dale conducted a survey of the students in his classes to observe the distribution of eye color. The table shows the results of his survey.

Eye color	Blue	Brown	Green	Hazel
Number	12	58	2	8

Again, use table to count the total # of people surveyed.

a. Find the experimental probability distribution for each eye color.

P (blue) = _____ P (brown) = _____ P (green) = _____ P (hazel)= _____

b. Based on the survey, what is the experimental probability that a student in Dale's class has blue or green eyes?

c. Based on the survey, what is the experimental probability that a student in Dale's class does not have green or hazel eyes?

d. If the distribution of eye color in Dale's grade is similar to the distribution in his classes, about how many of the 360 students in his grade would be expected to have brown eyes?