**Practice - Intro to Probability** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Theoretical vs. Experimental**

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| Explain the meaning of each probability. Describe a scenario for each probability. | | 1. A probability of 0: | | 1. A probability of 25%: | |
| 1. A probability of 0.5: | | 1. A probability of ¾: | | 1. A probability of 1: | |
| Situation A: Consider the letters in the state of NORTH CAROLINA. Suppose you took each letter of the word and put them into a bag. Find the probability of picking out the following at random. | | | | | |
| For this situation, what is the event?  For this situation, what are the outcomes? | | | | | |
| 1. P(choosing an A) | | 1. P(choosing a consonant) | | 1. P(choosing a letter) | |
| 1. P(choosing a K) | | 1. P(choosing an O or R) | | 1. P(choosing a vowel) | |
| Situation B: Use the spinner on the left to answer questions 12 – 20.  Write your answer as a fraction, decimal and a percent. | | | | | **\*ALL SECTIONS ARE EQUAL\*** |
| For this situation, what is the event?  For this situation, what are the outcomes? | | | | |
| 1. P(even number) | 1. P(negative number) | | 1. P(odd number) | |
| 1. P(multiple of 3) | 1. P(factor of 24) | | 1. P(prime number) | |

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| You spin the spinner in situation B 50 times. It landed on 24 ten times. | | | |
| 1. According to the result of the experiment, find the experimental probability of landing on 24. | 1. According to the theoretical probability, how many times should the spinner have landed on 24? | | 1. Compare the theoretical and experimental probabilities. |
| Situation C: The following question was asked to survey 6th graders at a Wake County middle school:  What college in North Carolina do you want to attend? Below are the results. | | | |
| For this situation, what is the event?  For this situation, what are the outcomes? | | | |
| 1. Find the probability of a student choosing NC State. | | 1. Find the probability of a student choosing either East Carolina or Duke. | |
| 1. Find the probability of a student choosing a college that does not have a shade of blue as their school color. | | 1. Find the probability of a student choosing a college that is located in the triangle. | |
| **Find the probability of the missing outcome.** | | | |
| 1. There are three choices of pets to pick out at Pick-A-Pet. You can choose from a dog, cat or hamster. The probability of getting a dog is 3/8 and the probability of getting a cat is 1/4. Find the probability of getting a hamster. | | 1. There are four types of candy in a bag – starbursts, jolly ranchers, snickers and milky ways. At random, the probability of picking a starburst is 2/5, a jolly rancher is 18% and a milky way is 0.2. What is the probability of picking a snickers at random? | |

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| **Describe a bag of M&M’s in which each of the following probabilities exists.** | | | |
| P(yellow) =  P(brown) =  P(green) = | | yellow: brown: green: total: | |
| P(red) =  P(red or orange) =  P(blue) = | | red: orange: blue: total: | |
| **Determine the likelihood and write a ratio to represent each probability (if possible).** | | | |
| 1. I am going to have math homework tomorrow night. | 1. It is going to rain tomorrow. | 1. I will pick a “S” or a “T” from the word “Skittles”. | 1. I will choose a quarter from a bag that has only 7 quarters. |