**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%:
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| 1. A probability of 0.5:
 | 1. A probability of ¾:
 | 1. A probability of 1:
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| 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)
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| 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)

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| 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.
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| 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.
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| 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.
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| **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.** |
| 1.

P(yellow) =  P(brown) =  P(green) =  |  yellow: brown: green: total:  |
| 1.

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.
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