Name: _____   Date: _____

Section 11.3 Math Link

This worksheet will help you with the Math Link on page 435.

1. The four sticks are tossed. Two of them land on the table with the decorated side up. The other two fall under the table. What is the theoretical probability that both sticks under the table are decorated side up?

_____

2. What if three sticks fall under the table? What is the theoretical probability

that all three sticks land decorated side up? _____

3. Set up a simulation to show the experimental probability for #2. You might use four coins or flip the same coin four times.
   a) How will you simulate the stick game?

   _____

   b) What will represent the decorated side of the stick? _____

   c) What will represent the undecorated side? _____
   d) Conduct 30 trials and record your results in the table below. Then in column 6, fill in the theoretical probability. **Note:** Refer to your answers to #2 in the section 11.1 Math Link.

Outcome	Tally	Tally as a #	Experimental Probability	Compiled Experimental Probability	Theoretical Probability
Four tails					
Three tails and one head					
Two tails and two heads					
One tail and three heads					
Four heads					

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4. What pairs of outcomes have the same theoretical probabilities?

_____

_____

5. Compare the experimental probability with the theoretical probability for each outcome.

_____

6. Compile your results with those of two or more of your classmates. Recalculate the experimental probabilities with this greater number of trials. Compare these new experimental probabilities with the theoretical probabilities. Are the probabilities getting closer or further apart in value? Explain.

_____

_____

_____

7. If a coin lands heads up, does it affect how the other coins land? Explain.

_____

_____