Name_____ Date_____

Probability with Number Cubes

Part A: Single-Outcome Events

A number cube labelled from 1 to 6 is rolled.

What are the possible outcomes?

What is the theoretical probability of each outcome?

- rolling a 4
- rolling an odd number
- rolling a 1 or a 3
- rolling a number less than 3

Roll the number cube 30 times. Record your results.

Outcome	1	2	3	4	5	6
Results						

Find the experimental probability of each outcome.

- rolling a 4
- rolling an odd number
- rolling a 1 or a 3
- rolling a number less than 3

How do these probabilities compare with the theoretical probabilities? Explain.

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Combine your results with those of another pair.

Outcome	1	2	3	4	5	6
Combined Results						

What is the experimental probability of each outcome now?

- rolling a 4
- rolling an odd number
- rolling a 1 or a 3
- rolling a number less than 3

How do the experimental probabilities compare with the theoretical probabilities now? Explain.

What do you think might happen if you rolled the number cube 500 times?

Name_____ Date_____

Probability with Number Cubes (cont'd)

Part B: Experiments Involving Two Independent Events

Two number cubes labelled from 1 to 6 are rolled and the numbers added.

Use a tree diagram or a table to find all possible outcomes.

Choose 3 sums. Determine the theoretical probability of rolling each sum.

Sum	Theoretical Probability

Roll the number cubes 30 times. Record your results.

Sum	2	3	4	5	6	7	8	9	10	11	12
Results											

Probability with Number Cubes (cont'd)

Find the experimental probability of each of your 3 sums.

Sum	Experimental Probability

How do these probabilities compare with the theoretical probabilities? Explain.

Combine your results with others who used the same sums.

Sum	2	3	4	5	6	7	8	9	10	11	12
Results											

What is the experimental probability of each sum now?

Sum	Experimental Probability

Probability with Number Cubes (cont'd)

How do the experimental probabilities compare with
the theoretical probabilities now? Explain.

What do you think might happen if you rolled the number cubes
500 times?