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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Probability with Number Cubes (cont'd)

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 a 1 or a 3
- rolling an odd number
- 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?

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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											

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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

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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?