

C3 - Theoretical & Experimental Probability

- calculate probabilities theoretically or experimentally.
- compare theoretical and experimental probability

Apr 18-11:28 AM

Review

Take a look at questions from previous classes assignment.

Text pg. 27-29:

Try It - #3-4;

Apply It - #5;

Work With It - #1, 3-4

Discuss It - #6-8

Be Careful: "Odds For" or "Odds Against"

Apr 18-11:28 AM

Definitions

Theoretical Probability: probability determined by reason or calculation.

$$\textit{Theoretical Probability} = \frac{\textit{\# of possible successful outcomes}}{\textit{total \# of possible outcomes}}$$

Experimental Probability: probability determined by experiment.

$$\textit{Experimental Probability} = \frac{\textit{\# of times event occurs in experiment}}{\textit{total \# of trials in experiment}}$$

Apr 18-11:28 AM

Example - "Rolling a Die"

Theoretical Probability

Create a table and a graph showing the probability of rolling each number on a die.

Experimental Probability

Roll a die 50 times and record the results in a table. Compare the results to the theoretical results.

Apr 18-11:28 AM

"Rolling Two Dice" Activity

Complete the activity on the handout provided.

Gather the entire class's results in Excel.

Does the number of trials in an experiment make a difference?

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Settlers of Catan

Explain rules and discuss best places to build settlements based on results from the "Rolling Two Dice Activity"



Apr 18-11:28 AM

Practice

Text pg. 33-34

Try It - #2, 3

Apply It - #7, 10

Text pg. 36-41

Apply It - #6, 8

Work With It - #1, 3

Apr 18-11:28 AM