

Elementary Mathematics Methods

Video Guide Sheet

Probability: Chance

Focus

- Theoretical Probability

Concepts To Think About

- The only possible outcomes for tossing a number cube are 1, 2, 3, 4, 5, and 6.
- Theoretical probability focuses on only what is possible.

Vocabulary

- Probability – the study of chance.
- Theoretical probability – focuses on the outcomes that are possible.

Tools

- number cubes

Process

- The possible outcomes for tossing a number cubes are 1, 2, 3, 4, 5, and 6.
- These are the only possible outcomes for tossing a number cube.
- So the theoretical probability for each outcome is 1 out of 6 or $\frac{1}{6}$.
- There are other theoretical probability events involved in tossing a number cube.
- For example, the theoretical probability for tossing an even number is 3 out of 6 or $\frac{3}{6}$ or $\frac{1}{2}$.
- Theoretical probability focuses on only what is possible.

Try Another Example

- What is the probability of tossing a 1 or a 2?

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Focus

- Experimental Probability

Concepts To Think About

- Experimental probability focuses on the outcomes that are not only possible but that are tempted through experimentation.

Vocabulary

- Probability – the study of chance.
- Experimental probability – focuses on the outcomes that are not only possible but that are tempted through experimentation.

Tools

- number cubes

Process

- Experimental probability related to the number cube involves actually tossing the number cube a specified number of times.
- For example, if a cube is tossed six times, what is the probability that a five will be the outcome.
- The learner is tossing the cube as the experiment.
- Of the six tosses, a five was the outcome ??? times, so the experimental probability of getting a five is ??? out of 6 or ???/6.
- Experimental probability rests on deciding on the context of the experiment, deciding the desired outcome, conducting the experiment, and noting the occurrence of the desired outcome.

Try Another Example

- Using a number cube, what is the experimental probability of tossing a 2 in five tosses?