

Lesson Summary

When all the possible outcomes of an experiment are equally likely, the probability of each outcome is

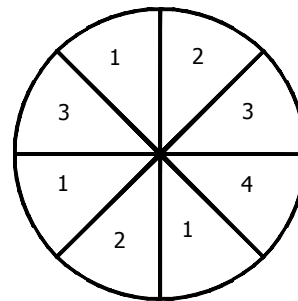
$$P(\text{outcome}) = \frac{1}{\text{Number of possible outcomes}}.$$

An event is a collection of outcomes, and when all outcomes are equally likely, the theoretical probability of an event can be expressed as

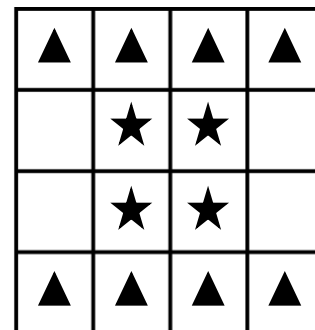
$$P(\text{event}) = \frac{\text{Number of favorable outcomes}}{\text{Number of possible outcomes}}.$$

Problem Set

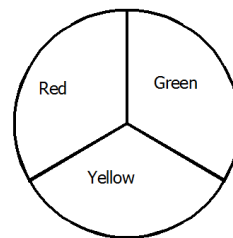
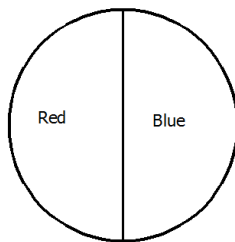
1. In a seventh-grade class of 28 students, there are 16 girls and 12 boys. If one student is randomly chosen to win a prize, what is the probability that a girl is chosen?
2. An experiment consists of spinning the spinner once.
 - a. Find the probability of landing on a 2.
 - b. Find the probability of landing on a 1.
 - c. Is landing in each section of the spinner equally likely to occur? Explain.



3. An experiment consists of randomly picking a square section from the board shown below.
 - a. Find the probability of choosing a triangle.
 - b. Find the probability of choosing a star.
 - c. Find the probability of choosing an empty square.
 - d. Find the probability of choosing a circle.



4. Seventh graders are playing a game where they randomly select two integers 0–9, inclusive, to form a two-digit number. The same integer might be selected twice.
- List the sample space for this chance experiment. List the probability of each outcome in the sample space.
 - What is the probability that the number formed is between 90 and 99, inclusive?
 - What is the probability that the number formed is evenly divisible by 5?
 - What is the probability that the number formed is a factor of 64?
5. A chance experiment consists of flipping a coin and rolling a number cube with the numbers 1–6 on the faces of the cube.
- List the sample space of this chance experiment. List the probability of each outcome in the sample space.
 - What is the probability of getting a heads on the coin and the number 3 on the number cube?
 - What is the probability of getting a tails on the coin and an even number on the number cube?
6. A chance experiment consists of spinning the two spinners below.



- List the sample space and the probability of each outcome.
- Find the probability of the event of getting a red on the first spinner and a red on the second spinner.
- Find the probability of a red on at least one of the spinners.