Problem Set

Lesson Summary

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

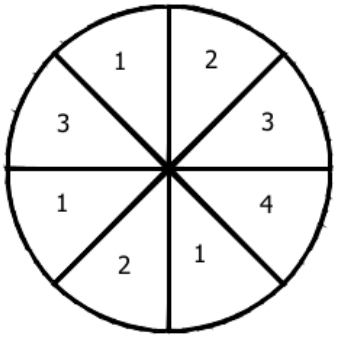
$$P(outcome) = \frac{1}{Number\ of\ possible\ outcomes}.$$

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

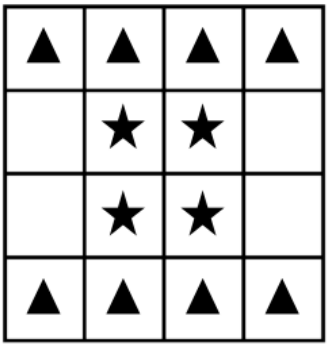
$$P(event) = \frac{Number\ of\ favorable\ outcomes}{Number\ of\ possible\ outcomes}.$$

1. In a seventh grade class of 28 students, there are 16 girls and 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.



11. 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.



12. Seventh graders are playing a game where they randomly select two integers from $0-9$, inclusive, to form a two-digit number.

The same integer might be selected twice.

a. List the sample space for this chance experiment. List the probability of each outcome in the sample space.

b. What is the probability that the number formed is between 90 and 99, inclusive?

c. What is the probability that the number formed is evenly divisible by 5?

d. What is the probability that the number formed is a factor of 64?

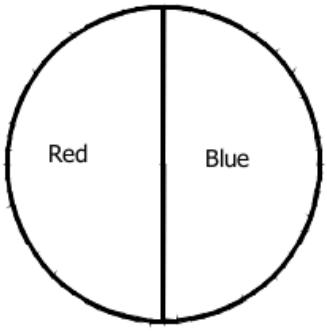
13. A chance experiment consists of flipping a coin and rolling a number cube with the numbers $1-6$ on the faces of the cube.

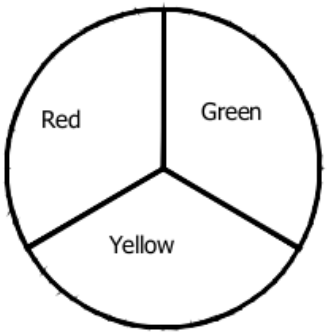
a. List the sample space of this chance experiment. List the probability of each outcome in the sample space.

b. What is the probability of getting a heads on the coin and the number 3 on the number cube?

c. What is the probability of getting a tails on the coin and an even number on the number cube?

14. A chance experiment consists of spinning the two spinners below.





a. List the sample space and the probability of each outcome.

b. Find the probability of the event of getting a red on the first spinner and a red on the second spinner.

c. Find the probability of a red on at least one of the spinners.