

11.3 Probability of Independent Events Day 1

TSW understand concept of probability

*understand independent events

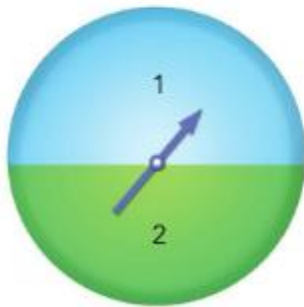
*use the multiplication rule and the addition rule of probability to solve problems with independent events

Vocabulary-

Multiplication Rule of Probability

Use the Multiplication Rule of Probability to Solve Problems with Independent Events

Suppose you are playing a game. You have a spinner with two congruent sections and some color cards as shown below. Your goal is to randomly spin a 2 and draw a red card.



Create a tree diagram to represent the independent events that form the compound event and the corresponding probabilities

Example 6 Solve probability problems involving two independent events.

A game is played with a fair coin and a fair six-sided number die. To win the game, you need to randomly obtain heads on a fair coin and a 3 on a fair number die.

a) Draw a tree diagram to represent this compound event.

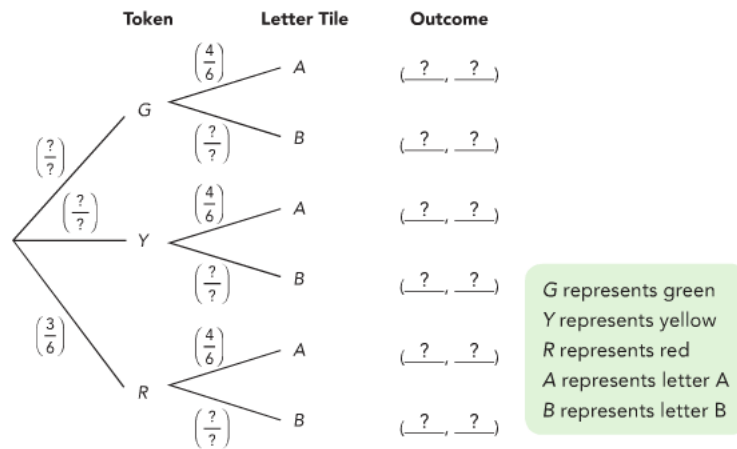
b) Use the multiplication rule of probability to find the probability of winning the game in one try.

Guided Practice

Solve. Show your work.

1 A game is played with a bag of 6 color tokens and a bag of 6 letter tiles. The 6 tokens consist of 2 green tokens, 1 yellow token, and 3 red tokens. The 6 letter tiles consist of 4 tiles of letter A and 2 tiles of letter B. To win the game, you need to get a yellow token and a tile of letter B from each bag.

a) Copy and complete the tree diagram.



b) Use the multiplication rule of probability to find the probability of winning the game in one try.

$$\begin{aligned}
 P(\text{winning the game}) &= P(Y, B) \\
 &= P(Y) \cdot P(B) \\
 &= \frac{?}{?} \cdot \frac{?}{?} \\
 &= \frac{?}{?}
 \end{aligned}$$

The probability of winning the game in one try is $\frac{?}{?}$.

