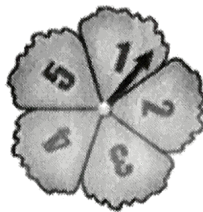


1. You spin the spinner and flip a coin. Find the probability of each.

a. Spinning a prime number and flipping tails

$$\frac{3}{5} \cdot \frac{1}{2} = \boxed{\frac{3}{10}}$$



b. Spinning a multiple of 2 and flipping heads

$$\frac{2}{5} \cdot \frac{1}{2} = \boxed{\frac{2}{10}}$$

2.

A student randomly guesses the answer for each of the following multiple choice questions.

1. In what year did the United States gain independence from Britain?

A. 1492 B. 1776 C. 1788 D. 1795 E. 2000

2. Which amendment to the Constitution grants citizenship to all persons born in the United States and guarantees them equal protection under the law?

A. 1st B. 5th C. 12th D. 13th E. 14th

3. In what year did the Boston Tea Party occur?

A. 1607 B. 1773 C. 1776 D. 1780 E. 1812

a. What is the probability of answering all three questions correctly? $\frac{1}{5} \cdot \frac{1}{5} \cdot \frac{1}{5} = \boxed{\frac{1}{125}}$

b. If a student can eliminate one answer choice from each, what is the new probability of getting them all correct?

$$\frac{1}{4} \cdot \frac{1}{4} \cdot \frac{1}{4} = \boxed{\frac{1}{64}}$$

3. You randomly choose one of the tiles. Without replacing the first tile, you choose a second tile. Find the probability of each compound event.

a. Choosing a 5 then a 6

$$\frac{1}{7} \cdot \frac{1}{6} = \boxed{\frac{1}{42}}$$

b. Choosing a number less than 7 and then a multiple of 4

$$\frac{2}{7} \cdot \frac{2}{6} = \boxed{\frac{4}{42}}$$

c. Choosing two even numbers

$$\frac{4}{7} \cdot \frac{3}{6} = \boxed{\frac{12}{42}}$$



4. A jewelry box contains two gold hoop earrings and two silver hoop earrings. You randomly choose two earrings to wear. What is the probability that they are both silver hoop earrings?

$$\frac{2}{4} \cdot \frac{1}{3} = \boxed{\frac{2}{12}}$$