

test on Monday.

**Unit 7: Data Analysis and Probability**

Math 8

**7.4 Solving Problems Involving Independent Events**

The rule for the probability of two independent events can be extended to three or more independent events.

The rule for the probabilities of independent events can be extended to:

The probability of 3 events A, B, and C occurring is  $P(A \text{ and } B \text{ and } C)$ .

If A, B, and C are two independent events,  $P(A \text{ and } B \text{ and } C) = P(A) \times P(B) \times P(C)$

Consider a case where there are more than two events.

You toss a dime, a quarter, and spin the pointer of a spinner with 4 equal sectors colored blue, green, red, and yellow.

What is the probability of tossing two tails and landing on red?  $P(T \text{ and } T \text{ and } R)$

The probability of tossing tails on the dime is  $\frac{1}{2}$

The probability of tossing tails on the quarter is  $\frac{1}{2}$

The probability of landing on red is  $\frac{1}{4}$

$$P(T/T/R) = P(T) \times P(T) \times P(R)$$

$$= \frac{1}{2} \times \frac{1}{2} \times \frac{1}{4}$$

$$= \frac{1}{16}$$

**Try This:**

Stephanie has a password on her phone. It is a 4 digit password. What is the probability that Cassidy can guess her password on the first try by randomly selecting a number from 0 to 9 four times?

The probability of guessing the first number right is  $\frac{1}{10}$

The probability of guessing the second number right is  $\frac{1}{10}$

The probability of guessing the third number right is  $\frac{1}{10}$

The probability of guessing the fourth number right is  $\frac{1}{10}$

The probability of guessing the third number right is  $\frac{1}{10}$

The probability of guessing the fourth number right is  $\frac{1}{10}$

$$P(\#/\#/\#/\#) = \frac{1}{10} \times \frac{1}{10} \times \frac{1}{10} \times \frac{1}{10}$$

$$= \frac{1}{10000}$$

Task #1  $\rightarrow$  In class assignment for marks  
Due today

Task #2  $\rightarrow$  p. 420 # 4-16 odd or even numbers.