

Math 7 - Unit 7

Day 6 - Compound Events

Lesson Objectives:

- I can represent sample spaces for compound events using methods such as organized lists, tables, and tree diagrams.
- I can identify the outcomes in the sample space from a compound event.

The set of all of the possible outcomes in a probability experiment is called the sample space. Organized lists, tables, and tree diagrams can be used to represent the sample space.

Three students are chosen to represent Mr. Balderick's class in a school assembly: Adrienne, Carlos, and Greg. All three of them need to sit in a row on the stage. Use a list to find the sample space for the different ways they can sit in a row.

ACG
AGC
CAG
CGA
GAC
GCA

6 different ways

Jun 27-3:40 PM

Apr 25-5:30 PM

A car can be purchased in blue, silver, red, or purple. It also comes as a convertible or hardtop. Use a table to find the sample space for the different styles in which the car can be purchased.

		Color			
		Blue	Silver	Red	Purple
Top	Convertible	BC	SC	RC	PC
	Hardtop	BH	SH	RH	PH

8 styles

An Italian ice shop sells lime, cherry, blueberry, and watermelon Italian ice. You can get it served plain, mixed with ice cream, or as a drink. Use a tree diagram to find the sample space for the different orders that can be made.

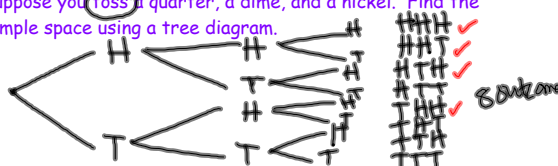


Apr 25-5:33 PM

Apr 25-5:33 PM

A compound event consists of two or more simple events. The probability of a compound event, just as with simple events, is the fraction of outcomes in the sample space for which the compound event occurs.

Suppose you toss a quarter, a dime, and a nickel. Find the sample space using a tree diagram.



What is the probability of getting three tails?

$$P(TTT) = \frac{1}{8}$$

What is the probability of getting exactly 2 heads?

$$P(HHT) = \frac{3}{8}$$

What is the probability of getting at least 2 heads?

$$P(\text{at least } HHT) = \frac{4}{8} = \frac{1}{2}$$

Apr 25-5:28 PM

The school cafeteria gives students two choices of snacks: carrot sticks and pretzels. They also offer a beverage choice of apple juice, low-fat milk, or bottled water.

Find the sample space for all possible orders of one snack with one beverage.



What is the probability of someone getting pretzels and apple juice?

$$P(P, AJ) = \frac{1}{6}$$

Apr 25-5:35 PM

Homework

Compound Events WKS

* Individual Think Time *



What to do if you get stuck...

Reread the problem. Did you write it down correctly?

Reread your notes. Is there a problem similar that we did together in class?

Find a problem similar in your book. Try this one to see if it helps.

Skip the problem until the end of Individual Think Time. Then ask an "educated" question of a neighbor or Mrs. Call.

Today we're working by...



Jul 8-10:14 AM