Geometry 13.1

5-19 p.918 Use lists, tables, and tree diagrams to represent sample spaces. Use the fundamental counting principle to count outcomes. equery likely

In a football game, a referee tosses a fair coin

to determine which team

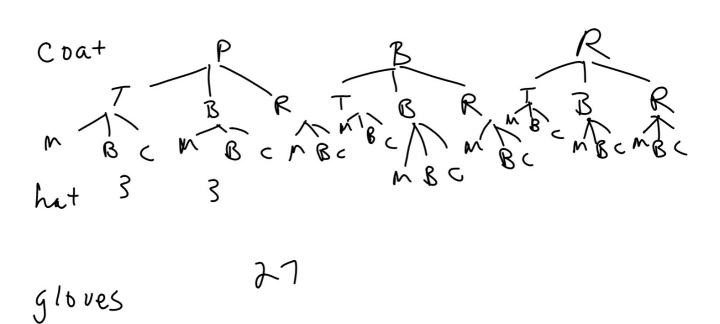
will take possession of the football first. The coin can land on heads

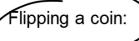
sample space outcome tree diagram experiment two-stage experiment multi-stage experiment

Fundamental counting principle = x to get options

activity: hat coat gloves

Activity: hat, coat, gloves





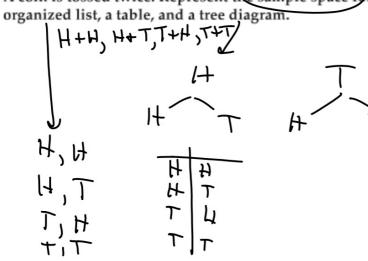


Definition Example	
An <i>experiment</i> is a situation involving chance that leads to results called <i>outcomes</i> . In the situation above, the experiment is too the coin.	ssing
An <i>outcome</i> is the result of a single performance The possible outcomes are landing on head or <i>trial</i> of an experiment. P & SS D & CeStatis.	ds (
An <i>event</i> is one or more outcomes of an experiment. One event of this experiment is the coin landing on tails.	(

Example 1 Represent a Sample Space Oll Possible



A coin is tossed twice. Represent the sample space for this experiment by making an



Multiple representations:

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1. A coin is these and then a number cube is rolled. Represent the sample space for this experiment by making an organized list, a table, and a tree diagram.

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41, HZ, H3, H4, HS, H6 T1 T2T3 T4 T5 T6

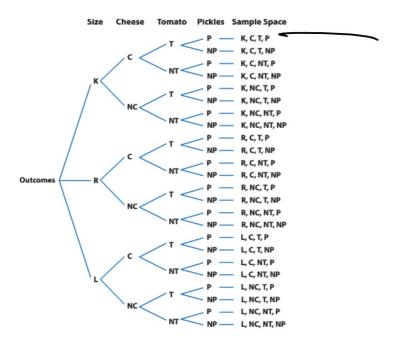
number cubes = dice

Real-World Example 2 Multi-Stage Tree Diagrams

HAMBURGERS To take a hamburger order, Keandra asks each customer the questions from the script

vertical or horizontal





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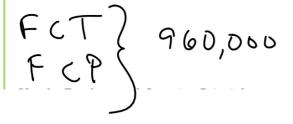
2.4.2.2

MUSIC Yoki can choose a small MP3 player with a 4- or 8-gigabyte hard drive in black, teal, sage, or red. She can also get a clip and/or a dock to go with it. Make a tree diagram to represent the sample space for this situation.

Real-World Example 3 Use the Fundamental Counting System



CLASS RINGS Haley has selected a size and overall style for her class ring. Now she must choose from the ring options shown. How many different rings could Haley create in her chosen style and size?



Ring Options	Number of Choices	
metals	10	
finishes	2	
stone colors	12	
stone cuts	5	
side 1 activity logos	20	
side 2 activity logos	20	
band styles	2	

3.3.3 = 27