

Name _____ Date _____

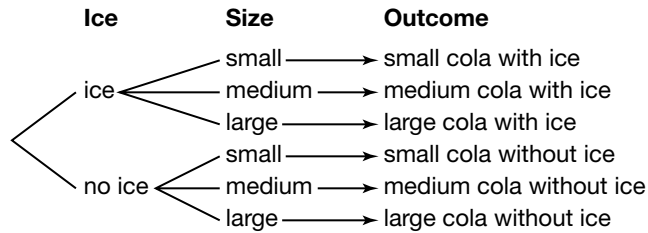
Finding Outcomes (pages 531–534)

To find outcomes when you are given choices, you can simply list all of the possible outcomes, or use one of the methods below.

Tree Diagram	<table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Size</th> <th>Topping</th> <th>Outcome</th> </tr> </thead> <tbody> <tr> <td rowspan="2">small</td> <td>none</td> <td>small hot dog without chili</td> </tr> <tr> <td>chili</td> <td>small hot dog with chili</td> </tr> <tr> <td rowspan="2">large</td> <td>none</td> <td>large hot dog without chili</td> </tr> <tr> <td>chili</td> <td>large hot dog with chili</td> </tr> </tbody> </table>	Size	Topping	Outcome	small	none	small hot dog without chili	chili	small hot dog with chili	large	none	large hot dog without chili	chili	large hot dog with chili
Size	Topping	Outcome												
small	none	small hot dog without chili												
	chili	small hot dog with chili												
large	none	large hot dog without chili												
	chili	large hot dog with chili												
Combinations	<p>Combinations are arrangements or listings in which order is not important. To find combinations, make a list. For example, let S stand for a small hot dog, and L stand for a large hot dog, and C stand for chili and N stand for none. Now, list all of the ways you can pair these letters.</p> <p style="text-align: center;">SN, NS, SC, CS, LN, NL, LC, CL</p> <p>Since SN and NS are the same, a small hot dog with no chili, then this arrangement is a combination. The four different combinations are SN, SC, LN, and LC.</p>													

EXAMPLE

At a concession stand, you can order a small, medium, or large cola, with or without ice. Use a tree diagram to find the number of possible outcomes.



Try This Together

- At the school snack bar, you can get apple, grape, or orange juice in a can, bottle, or drink box. Use a tree diagram to find the number of possible outcomes.

PRACTICE

For each situation, draw a tree diagram to show the number of outcomes.

- a choice of black or brown shoes with tan or blue pants
- a choice of grape, apple, or orange juice with a sandwich or slice of pizza



- Standardized Test Practice** The Ramirez family is getting 2 new sofas. They have 6 sofas to choose from. In how many ways can they choose 2 sofas from the 6 sofas?

A 25 **B** 10 **C** 15 **D** 30

Answers: 1. 9 possible outcomes 2. 4 3. 6 For Exercises 2–3, also see students' work to make sure tree diagrams are appropriate. 4. C