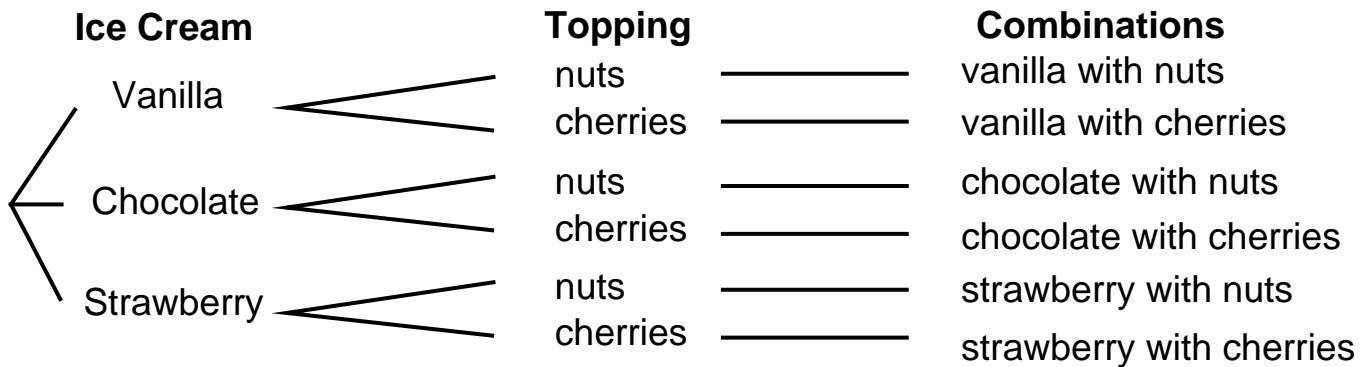


## Probability: Skill 5 - 26C

### Combinations

The neighborhood ice cream store offers 3 flavors of ice cream for a sundae. The choices are vanilla, chocolate or strawberry. You may choose one topping, either nuts or cherries. How many possible sundae combinations can be made? Draw a tree diagram.

<b>Step 1</b> First, list the flavors of ice cream and draw lines. Look at diagram below.	<b>Step 2</b> Next, list the toppings for each flavor and connect with lines.	<b>Step 3</b> List the combinations.
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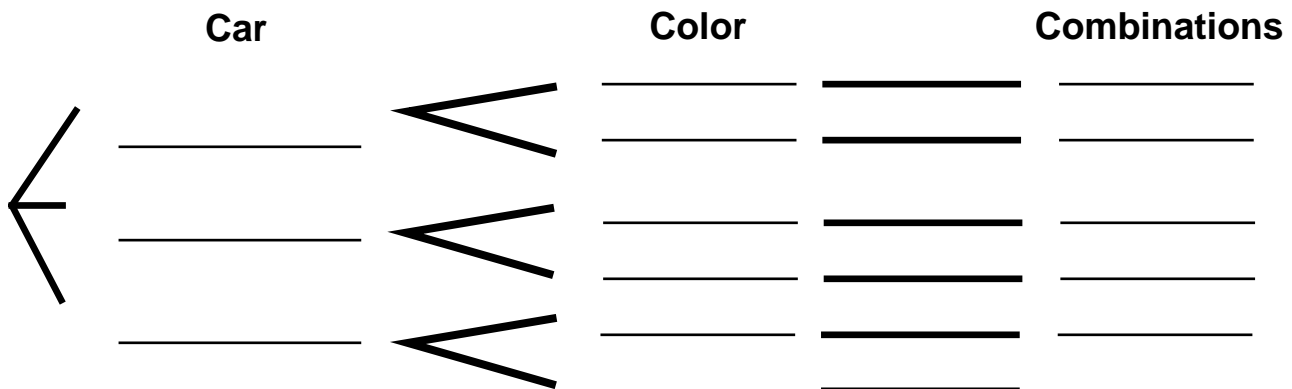


You can see from the tree diagram above that there are 6 possible combinations.

**Directions:** Make a tree diagram to find the number of possible combinations.

1. You can buy a Mustang, Corvette or Camaro toy car. Each car can be red or blue. List all of the possible combinations.

Fill in the tree diagram. Write on the lighter shaded lines. Use the tree diagram above as a guide.



There are \_\_\_\_\_ possible combinations.  
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**Probability: Skill 5 - 26C****Combinations**

**Directions:** Make a tree diagram to find the number of possible combinations.

2. Michael has the following clothing to choose from. How many different clothing combinations are possible?

**Pants:** brown, blue, or green

**Shirt:** yellow, red, or black

**Use this space to work.**

**Make a tree diagram.**

3.

**Make a tree diagram below.**

<b>Menu</b>		
<b>choose one of each</b>		
	<b>filling</b>	<b>sauce</b>
burrito	bean	hot
taco	beef	mild

**Probability: Skill 5 - 26C****Combinations**

**Directions:** Make a tree diagram to find the number of possible combinations.

**4.** Maria is buying an electric guitar. She can choose from a Stratocaster, a Jaguar or a Telecaster. Each guitar is available in three colors. How many different combinations are possible?

**Guitar Model:** Stratocaster, Jaguar, or Telecaster

**Color:** blue, red or black.

**Use this space to work.**

**Make a tree diagram.**

**5.** Grace is buying a toy. She can choose a toy airplane or a toy helicopter. She can choose wind up or battery operated. She has a choice of blue or green. How many different combinations are possible?

**Toy:** airplane or helicopter

**Power:** wind up or battery

**Color:** blue or green

**Use this space to work.**

**Make a tree diagram.**

## Probability: Skill 5 - 26C

**Combinations**

6. Ryan is buying his lunch. He can choose a main item and a side item. He can choose pizza or a hamburger for the main item. The side item choices are nachos or fries. He can choose soda or juice to drink. How many different lunch combinations are possible?

**Main Item:** pizza or hamburger

**Side Item:** nachos or fries

**Drink:** soda or juice

Use this space to work.

Make a tree diagram.

7. Rachel has to make choices for her lunch. She can choose tacos, pizza or a vegetable plate for the main dish. For desert she can choose ice cream, pudding or pie. How many different combinations are possible?

**Main Dish:** tacos, pizza or vegetable plate

**Desert:** ice cream, pudding or pie

Use this space to work.

Make a tree diagram.

1. Car	Color	Combinations
Mustang	red	Mustang red
	blue	Mustang blue
Corvette	red	Corvette red
	blue	Corvette blue
Camaro	red	Camaro red
	blue	Camaro blue

There are 6 possible combinations.

2. Pants	Shirt	Combinations
brown	yellow	brown pants, yellow shirt
	red	brown pants, red shirt
	black	brown pants, black shirt
blue	yellow	blue pants, yellow shirt
	red	blue pants, red shirt
	black	blue pants, black shirt
black	yellow	black pants, yellow shirt
	red	black pants, red shirt
	black	black pants, black shirt

There are 9 possible combinations.

3. main item	filling	sauce	combinations
burrito	bean	hot	burrito, bean, hot
		mild	burrito, bean, mild
	beef	hot	burrito, beef, hot
mild		burrito, beef, mild	
taco	bean	hot	taco, bean, hot
		mild	taco, bean, mild
	beef	hot	taco, beef, hot
mild		taco, beef, mild	

There are 8 possible combinations

4. Guitar Model	Color	Combinations
Stratocaster	blue	Stratocaster, blue
	red	Stratocaster, red
	black	Stratocaster, black
Jaguar	blue	Jaguar, blue
	red	Jaguar, red
	black	Jaguar, black
Telecaster	blue	Telecaster, blue
	red	Telecaster, red
	black	Telecaster, black

There are 9 possible combinations.

5. toy	power	color	combinations
airplane	wind up	blue	airplane, wind up, blue
		green	airplane, wind up, green
	battery	blue	airplane, battery, blue
green		airplane, battery, green	
helicopter	wind up	blue	helicopter, wind up, blue
		green	helicopter, wind up, green
	battery	blue	helicopter, battery, blue
green		helicopter, battery, green	

There are 8 possible combinations

6. main dish	side dish	drink	combinations
pizza	nachos	soda	pizza, nachos, soda
		juice	pizza, nachos, juice
	fries	soda	pizza, fries, soda
juice		pizza, fries, juice	
hamburger	nachos	soda	hamburger, nachos, soda
		juice	hamburger, nachos, juice
	fries	soda	hamburger, fries, soda
juice		hamburger, fries, juice	

There are 8 possible combinations

7. Main Dish	Desert	Combinations
tacos	ice cream	tacos, ice cream
	pudding	tacos, pudding
	pie	tacos, pie
pizza	ice cream	pizza, ice cream
	pudding	pizza, pudding
	pie	pizza, pie
vegetable plate	ice cream	veg. plate, ice cream
	pudding	veg. plate, pudding
	pie	veg. plate, pie

There are 9 possible combinations.