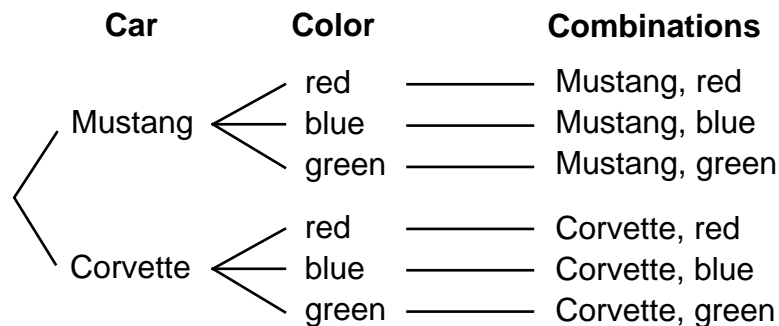# Probability
Skill 3 - 26I

Combinations

Directions: Read the word problem below. Make a tree diagram.

Example

A toy store has 2 model cars for sale. You can buy a Mustang or a Corvette, Each car is colored red, green or blue. How many different car and color combinations are possible? Make a list of all of the combinations of cars and colors.

Car	Color	Combinations

Mustang — red — Mustang, red
Mustang — blue — Mustang, blue
Mustang — green — Mustang, green

Corvette — red — Corvette, red
Corvette — blue — Corvette, blue
Corvette — green — Corvette, green

There are 6 possible combinations.

1.
Gene has a pair of white tennis shoes and a pair of black tennis shoes. He also has 3 pairs of socks. He has a red pair, a green pair and a blue pair. How many different shoe and sock combinations are possible? Draw a tree diagram.

Use this space to work. Make a **tree diagram.**

Probability
Skill 3 - 26I

Combinations

Directions: Read the word problem below. Make a tree diagram.

2.

Alan must choose an outfit for a picnic. He can choose a blue shirt or a red shirt. He can choose brown shorts, gray shorts or green shorts. How many different shirt and shorts combinations are possible? Draw a tree diagram.

Use this space to work. Make a **tree diagram.**

3.

Ryan is buying his lunch. He can choose a main item and a side item. He can choose pizza or a hamburger for his main item. The side item choices are nachos or fries. How many different lunch combinations are possible? Draw a tree diagram.

Use this space to work. Make a **tree diagram.**

Probability
Skill 3 - 26I

Combinations

Directions: Read the word problem below. Make a tree diagram.

4.

Grace is buying a surfboard. She can choose a red, white or blue surfboard. She can choose orange, gold or purple stripes to decorate her surfboard. How many combinations are possible? Draw a tree diagram.
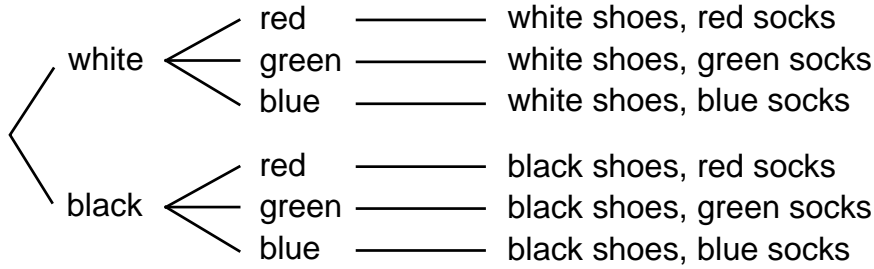
Use this space to work. Make a **tree diagram.**

5.
Rachel wants to buy a sundae. She can choose from 4 flavors of ice cream. The choices are vanilla, chocolate, strawberry, or peach. She can choose from 3 toppings. The choices are nuts, cherries, or sprinkles. How many combinations are possible? Draw a tree diagram.
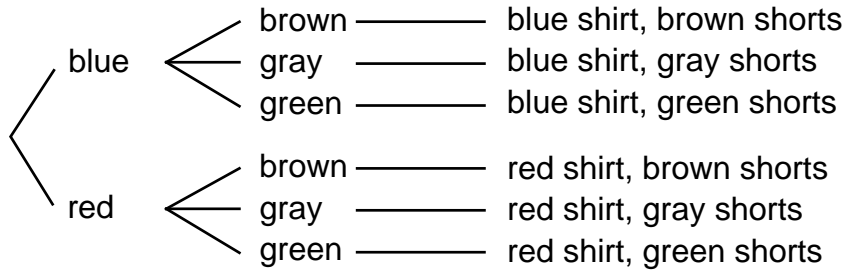
Use this space to work. Make a **tree diagram.**

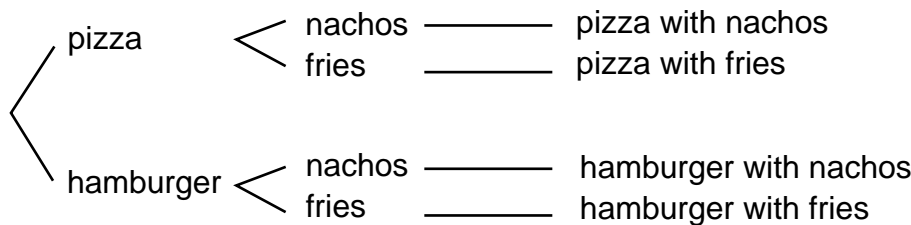**1. tennis shoes   socks   combinations**

white
- red —————— white shoes, red socks
- green —————— white shoes, green socks
- blue —————— white shoes, blue socks

black
- red —————— black shoes, red socks
- green —————— black shoes, green socks
- blue —————— black shoes, blue socks

There are 6 possible combinations.

2.   shirt   shorts   combinations

blue
- brown ————— blue shirt, brown shorts
- gray ————— blue shirt, gray shorts
- green ————— blue shirt, green shorts

red
- brown ————— red shirt, brown shorts
- gray ————— red shirt, gray shorts
- green ————— red shirt, green shorts

There are 6 possible combinations.

3.   main item   side item   combinations

pizza
- nachos ————— pizza with nachos
- fries ————— pizza with fries

hamburger
- nachos ————— hamburger with nachos
- fries ————— hamburger with fries

There are 4 possible combinations.

4.   surfboard   stripes   Combinations

red
- orange ——— red surfboard, orange stripes
- gold ——— red surfboard, gold stripes
- purple ——— red surfboard, purple stripes

white
- orange ——— white surfboard, orange stripes
- gold ——— white surfboard, gold stripes
- purple ——— white surfboard, purple stripes

blue
- orange ——— blue surfboard, orange stripes
- gold ——— blue surfboard, gold stripes
- purple ——— blue surfboard, purple stripes
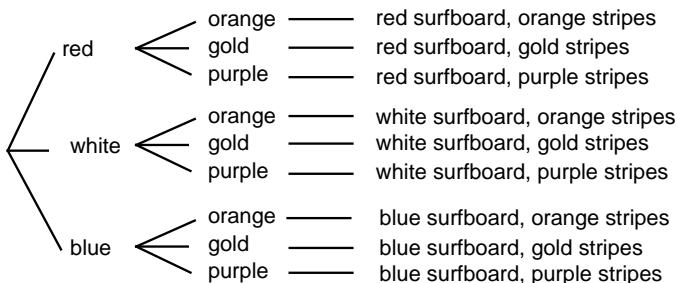
There are 9 possible combinations.

5. flavors   toppings   combinations

vanilla
- nuts ——— vanilla with nuts
- cherries ——— vanilla with cherries
- spinkles ——— vanilla with spinles

chocolate
- nuts ——— chocolate with nuts
- cherries ——— chocolate with cherries
- sprinkles ——— chocolate with sprinkles

strawberry
- nuts ——— strawberry with nuts
- cherries ——— strawberry with cherries
- sprinkles ——— strawberry with sprinkles

peach
- nuts ——— peach with nuts
- cherries ——— peach with cherries
- sprinkles ——— peach with sprinkles

There are 12 possible combinations.