

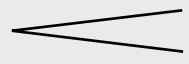





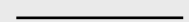

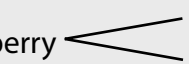
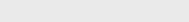
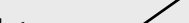

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Independent Events

5.A.1.a

Example

Which tree diagram represents the number of choices someone has if they can order one scoop of vanilla, chocolate, or strawberry ice cream in either a cone or a cup?

- A**
- | | | |
|------------|---|-------------|
| Vanilla |  | Cone
Cup |
| Chocolate |  | Cone
Cup |
| Strawberry |  | Cone
Cup |
- B**
- | | | |
|------------|---|--------------|
| Vanilla |  | Cone
Cone |
| Chocolate |  | Cup
Cup |
| Strawberry |  | Cone
Cup |
- C**
- | | | |
|------------|---|-------------|
| Vanilla |  | Cone |
| Chocolate |  | Cup |
| Strawberry |  | Cone
Cup |
- C**
- | | | |
|------------|---|------|
| Vanilla |  | Cone |
| Chocolate |  | Cup |
| Strawberry |  | Cup |

Thinking It Through

Solve —*List It* Make a tree diagram to show the number of possible outcomes.

There are 3 flavors of ice cream that can be placed into 2 containers. The possible outcomes are as follows:

vanilla cone, vanilla cup
chocolate cone, chocolate cup
strawberry cone, strawberry cup

There are 6 possible ways to receive 1 flavor of ice cream, *answer A*.

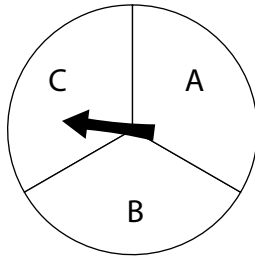
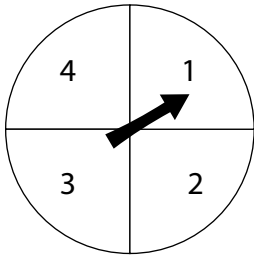
Review

- A **tree diagram** is used to show the possible outcomes for **independent events**. Independent events are two events for which the outcome of the first event does not effect the probability of the second event. (The two events are *independent* of each other.)
- Another way to find the number of possible outcomes is to use the **Fundamental Counting Principle**. The number of possible outcomes can be found by multiplying the number of outcomes in each event. In the problem above, there are 3 possible flavors and 2 possible containers, so multiply $3 \times 2 = 6$ to find the number of possible outcomes.

Independent Events

Directions: Write the answer to each Part on the lines provided.

- 1 Carlos is going to spin these two spinners.



Part A

How many possible outcomes are there?



Use the Fundamental Counting Principle to find the number of possible outcomes.

Part B

Name all of the possible outcomes. Use what you know about independent events to explain how you found your answer. Use words, numbers, and/or symbols in your explanation.
