

Stats /

Identifying independent events given descriptions of experiments

They are independent if the probability do not affect each other. So if you draw a card from a deck of cards and *return it*, the probably hasn't changed when you draw the next card. But if you *take it out*, you have changed the probability for the next draw (total amount goes from 52 to 51) and it would be dependent.

Worked Examples:

Experiment	Events	Independent	Dependent
A box contains tiles labeled A through Z. A tile is randomly chosen from the box and <u>set aside</u> . Then another random selection is made from the remaining tiles. <i>You have changed the probability</i>	Event A: The first selection is a tile labeled with a "G".	○	●
	Event B: The second selection is a tile labeled with a "Q".		
A paper clip is randomly selected from a container with black clips and white clips and <u>thrown away</u> . Then another random selection is made from the remaining clips. <i>You have changed the probability</i>	Event A: The first selection is a black paper clip.	○	●
	Event B: The second selection is a white paper clip.		
A spinner with slices numbered 1 through 11 is spun twice. <i>The probability never changes</i>	Event A: The first spin lands on 8.	●	○
	Event B: The second spin lands on 5.		
Keiko randomly selects one of her sports trading cards. She then <u>returns the</u> card to the deck and mixes the deck. Then another random selection is made. <i>The probability won't change if you return it</i>	Event A: The first selection is a baseball player.	●	○
	Event B: The second selection is a tennis player.		
A bag contains red beans and orange beans. A bean is selected from the bag and <u>dropped back into the bag</u> . The beans are mixed. Then another random selection is made. <i>The probability won't change if you put it back in</i>	Event A: The first selection is a red bean.	●	○
	Event B: The second selection is an orange bean.		

Note: T

A family has two children.

In order for Both to have red hair, the 1st one has to so it is dependent upon the 1st one having red hair

Event A: The older child has red hair.	○	<i>Dependent</i> ●
Event B: Both children have red hair.		

#Probability

#CountingAndProbability

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