

Compound Events



When two events happen either at the same time or one after the other.

Independent Events

One event does NOT affect another event.



Example:

Suppose you roll a 6-sided
dice two times.

Find $P(3 \text{ then } 6)$.

Independent Events

One event does NOT affect another event.

Example:

Suppose you pick a chip from a bag with chips numbered 1-5, replace the 1st chip and then draw a 2nd chip.

Find P (3 then 5).

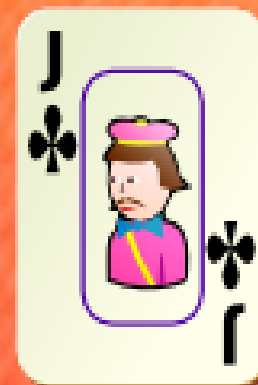
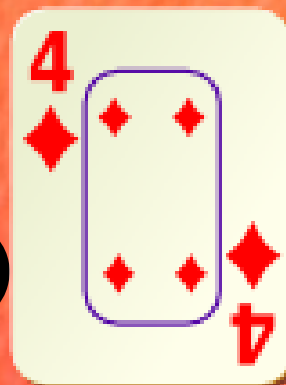
Independent Events

One event does NOT affect another event.

Example:

Suppose you randomly draw a card from a standard deck of cards, replace the 1st card and then draw a 2nd card.

Find P (4 then Jack)



Independent Events

One event does NOT affect another event.

**What is another
example of compound
events that are
independent?**

Dependent Events

One event DOES affect another event.

Example:

Your CD player can be set to random.

It will not repeat a song until it has played all other songs. There are 13 songs on your favorite cd.

Find $P(\text{song \#4 then \#8})$.



Dependent Events

One event DOES affect another event.

Example:

Suppose you pick two chips from a bag with chips numbered 1-5, without replacing the 1st chip.

Find P (3 then 5).

Dependent Events

One event DOES affect another event.

Example:

Suppose you randomly draw two cards from a standard deck of cards, without replacing the 1st card.

Find P (4 then Jack).



Dependent Events

One event DOES affect another event.

**What is another
example of compound
events that are
dependent?**

Which is which?

You are not sure whether white or blue socks will match your outfit.

- In your sock drawer you have 7 pairs of white socks, 4 pairs of blue socks, and 3 pairs of black socks.
- So, from your sock drawer you randomly pick two pairs of socks without replacing them.



Find $P(\text{white then blue})$.

Which is which?

On Thanksgiving Day my family plays a game that goes like this...

- You roll one fair 6-sided die and then draw one card from a standard deck of cards.
- Find $P(5 \text{ then queen})$.

