

Solving Complex Probability Problems: Takeaways



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Concepts

- The opposite of a set is called its **complement**, and it's denoted as A^c .
- For any random experiment either event A or A^c will happen, so the event "E or non-E" is certain and has a probability of 1:
- The **multiplication rule** says that for two events A and B , the probability that both event **and** happen can be found by multiplying the probability of A by the probability of B if A and B are independent:
$$P(A \text{ and } B) = P(A) \cdot P(B)$$
- The multiplication rule only works for **independent events**. Events that don't influence each other's probability are called independent events.
- When we sample an element from a group and put the element back, we're **sampling with replacement**.
- When we sample an element from a group but don't put it back, we're **sampling without replacement**.

Resources

- [A nice tutorial on independent events](#)
- [A brief tutorial that covers types of events](#)



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