

Learning Objective(s) _____:

**Main Ideas/
Questions**

'AND' Characteristics

Notes

'AND' Probability – The _____ which _____ events are likely to occur

$P(A \text{ and } B) = P(A) * P(B)$

**Written as fractions first!

Two possibilities:

- **Independent Events** – Events which the first event _____ effect the rest of the events

****Worded as _____ replacement****

- **Dependent Events** – Events which the first event _____ effect the rest of the events

****Worded as _____ replacement****

***** THIS CHANGES THE REST OF THE EVENTS' PROBABILITIES!**

1. If the $P(A) = 0.3$ and the $P(B) = 0.5$, what is $P(A \text{ and } B)$?
2. If the $P(A) = 0.1$ and $P(A \text{ and } B) = 0.5$, what is $P(B)$?
3. If you chances of losing a cup game is 2 in 3. What are the chances that you will lose 5 games in a row?
4. If the Atlanta Hawks free throw percentage is 82%, what is the probability that a player for the Hawks will make 2 free throw shots in a row?

**Main Ideas/
Questions**

Examples

Notes

5. P(rolling two dice and getting a sum of 5)
6. P(rolling a 4 and rolling a 5)
7. P(rolling a number less than 4 and flipping a tail)
8. P(rolling a sum of 7 with two dice and picking a face card from a standard deck of cards)
9. A bag contains 1 blue marble, 8 red marbles, and 7 yellow marbles. What is the probability of drawing 3 red marbles **with replacement?**
10. What is the probability of picking two lettered cards **without replacement?**
11. A bag contains 1 blue marble, 8 red marbles, and 7 yellow marbles. What is the probability of drawing 2 red marbles **without replacement?**
12. A cooler contains 12 bottles of Gatorade: 3 lemon-lime, 4 orange, and 5 fruit-punch flavored. You randomly grab 3 bottles one a time for you and your friends. What is the probability of choosing a lemon-lime first, fruit-punch second, and orange third?