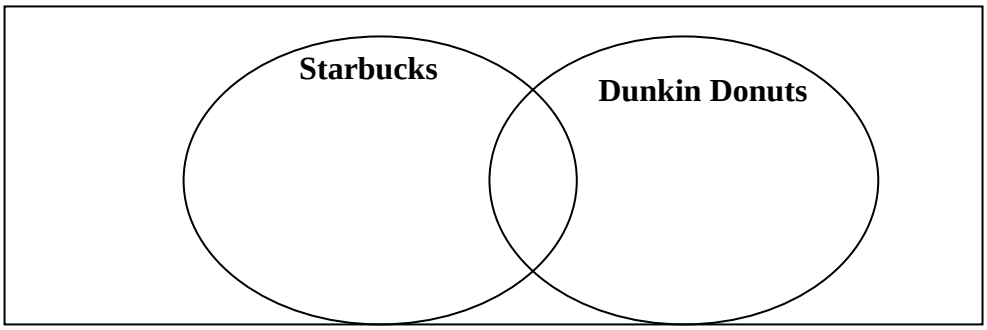
Name_____ Date:_____

Unit 2 Review

Venn Diagram Probabilities

A survey was taken at a local office about their preferences to where they got their morning coffee. They were asked if they preferred Starbucks, Dunkin Donuts, both or neither. 75 People were surveyed, 29 said they only go to Starbucks, 18 said they go to both, and 12 said that they make their coffee at home and don't go to either in the morning. Fill out the Venn Diagram below



1. What is the probability that someone gets their coffee at Dunkin Donuts?

2. What is the probability that someone only gets their coffee at Starbucks?

3. What is the probability that someone goes out in the morning to get their coffee? P(Starbucks or Dunkin Donuts)

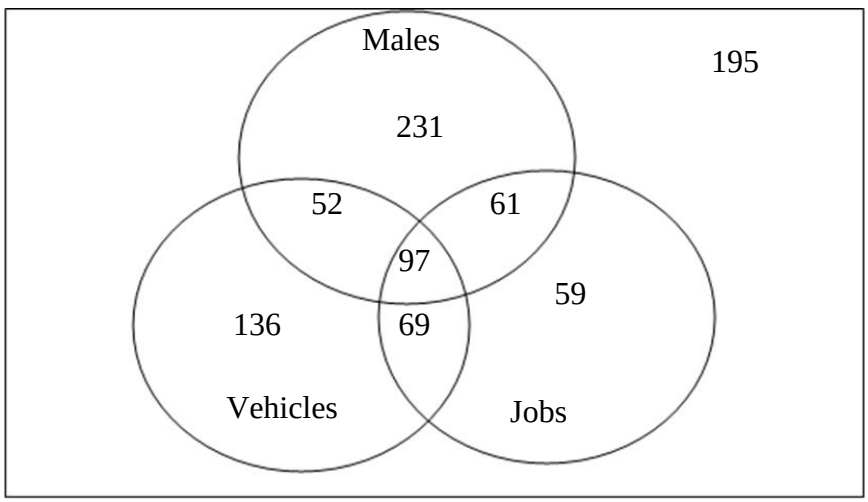
4. What is the probability that someone drinks Dunkin Donuts GIVEN they do not drink Starbucks?

5. What is the probability that someone only drinks Starbucks GIVEN they buy their coffee in the morning?

6. What is the probability that someone does not go out in the morning to get their coffee?

Triple Venn Diagram Probabilities

A survey was taken at a local high school asking students about who had jobs and who had cars. 900 students were asked and the data was collected and put in the Venn Diagram below.



7. What is the probability that a randomly selected student was a female?

8. What is the probability that a randomly selected student was a female who had a job but didn't have a car?

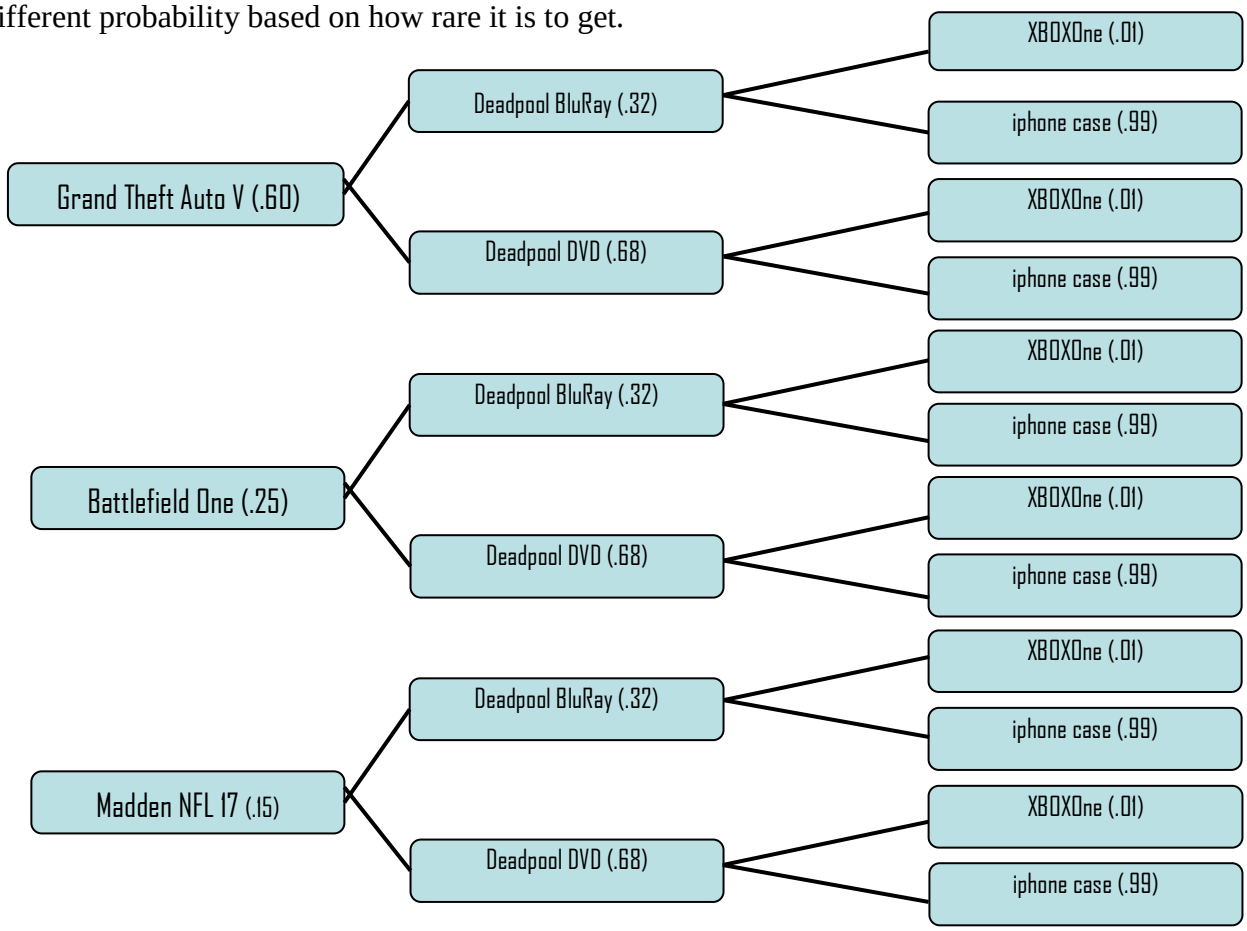
9. What is the probability that a randomly selected student was a female who didn't have a car?

10. What is the probability that a randomly selected student had a job?

11. What is the probability that a randomly selected student had a job and a car?

Weighted and non-weighted tree diagrams Probability

A local electronics store is trying to get more business and so they created a promotion where customers can spend $100 and get a random bag of goods. They get 1 video game, 1 movie and 1 special item. Each item has a different probability based on how rare it is to get.



12. How many outcomes are there? Explain how you know

13. What is the probability that you will get Madden NFL 17, Deadpool Bluray and an XBOXone?

14. You already own Battlefield One, so what is the probability of NOT getting Battlefield One?

15. What is the probability of getting an XBOXOne?

16. What is the probability of getting the Deadpool DVD?

17. What is the probability of getting Madden or Grand Theft Auto V?

18. What is the probability of NOT getting NFL Madden 17, the Deadpool DVD and an iPhone case?

Binomial Probability

Sprayberry HS is having a fair to raise money for SWAYJ. Annie decides to play the ring toss game. For $3 you get 6 tosses to get as many rings around the sticks as possible.

- If you make all 6 tosses you get a SHS T-Shirt
- If you make 4 or 5 tosses you get a coupon for a Chick-Fil-A chicken biscuit
- If you make 2 or 3 tosses you get a soda
- If you make 1 toss you get a Sprayberry pencil.
- If you make no tosses you get nothing.

19. What is the probability that Annie will get the chicken biscuit coupon?

20. What is the probability that she will get a SHS T-shirt?

21. What is the probability that she gets a pencil?

22. If 320 people play the game, how many sodas will they expect to give away?

23. If 320 people play the game how many t-shirts will they expect to give away?

24. T-Shirts cost $9, chicken biscuit coupons cost $3.50, a soda costs $1 and a Sprayberry pencil costs $0.25. How much money will be spent on prizes?

25. Assuming 320 people play the game how much money is expected to be raised for SWAYJ? Remember that it costs $3 to play.

Weighted Binomial Probability

Paul's dad set up a dart game in his basement. He wants Paul to get good at darts so he can use him to hustle unsuspecting people. To give Paul an incentive he is going to give him cash depending on how well he does. You get two darts and the goal is to make a bulls-eye. Everything else is considered a miss.
~If you make the first dart you get $10 with a chance to make the bonus dart for an additional $5
~If you miss the first dart you still win $1 with a chance to make a bonus dart for an additional $5

Paul currently can hit the bulls-eye 25% of the time.

26. What is the probability of getting $1_____

$6_____

$10_____

$15_____

27. If Paul plays everyday for a week, how much money can he expect to have at the end of the week?