**UNIT 8 PROBABILITY REVIEW NAME:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **One card is randomly selected from a standard deck of cards. What is the probability of choosing a six and a diamond from a standard deck of cards?**
2. A coin and a die are tossed. Calculate the probability of getting tails and a number that is not divisible by 2.
3. What is the probability of drawing 2 queens cards one after the other from a standard deck of cards *without replacement*?
4. A card is randomly selected from a standard deck of 52 cards. What is the probability that is it a five or a club?
5. **One** card is randomly selected from a standard deck of 52 cards. What is the probability of getting a spade and a face card?
6. Sheila did a survey of 71 of her friends about whether they liked Justin Bieber or Justin Timberlake better. Thirty-two said they liked Bieber, 25 said they liked Timberlake, and 4 said they liked both. If Sheila were to select a student at random, what is the probability that they would choose:
   1. Create a Venn Diagram of the information.
   2. Bieber or Timberlake?
   3. neither Bieber nor Timberlake?
7. Two coins are tossed. What is the probability of getting a tail, followed by a head?
8. A card is chosen from a standard deck what are the odds of it being a heart?
9. Suppose you have to use the digits 0-9 to create a four-digit sequence, and no numbers are repeated. How many different sequences are possible if the pin cannot start with 0?
10. You put a CD that has 8 songs in your CD player. You set the player to play the songs at random. The player plays all 8 songs without repeating any song. What is the probability that the songs are played in the same order they are listed on the CD?
11. There are 16 teams in the state basketball tournament. If each team has an equal chance of winning, what are the chances that the places will go as follows:

1st place – West Jordan HS

2nd place – Riverton

3rd place – Bingham

4th place – Copper Hills

1. How many different five person committees can be formed from a group of 7 boys and 6 girls?
2. What are all the different ways the letters HTAM can be arranged? What is the probability that if you randomly selected one of these arrangements, you would select the one that spells MATH?
3. How many different 8 letter arrangements can be made using the letters from the word “DIVIDEND”?
4. Jones is the Chairman of a committee. In how many ways can a committee of 5 be chosen from 10 people given that Jones must be one of them?
5. Serial numbers for a product are to be made using three letters (using any letter of the alphabet) followed by two single-digit numbers. For example, JGR29 is one such serial number. How many such serial numbers are possible if neither letters nor numbers can be repeated?
6. In the student government there are 6 seniors and 3 juniors. If a committee of 4 people is selected from this group, what is the probabilitythat 2 seniors and 2 juniors are on this committee?
7. There are 7 Language, 4 Math, and 2 History classes that a college student can take. A student must take 2 classes.What is the probability that the student will take a Language or a Math class?

19. Ms. Stach has 18 boys and 12 girls in her mathematics class. If she chooses three students at random to work on the blackboard, what is the probability that all the students chosen are boys?

**20.** A pet store contains 35 light green parakeets (14 females and 21 males) and 44 sky blue parakeets (28 females and 16 males). Arrange this information in a two-way table.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Male | Female | Total |
| Light Green Parakeet |  |  |  |
| Sky Blue Parakeet |  |  |  |
| Total |  |  |  |

1. You randomly choose one of the parakeets. What is the probability that it is a male or a sky blue parakeet?
2. What is the probability that the randomly chosen parakeet is both green and female?
3. What is the probability that the randomly chosen parakeet is male and is blue?

21. If the probability of making a field goal is 78% on a given day, what is the probability of not making a field goal 4 attempts in a row?

22. Jamie has 4 shirts, 8 ties, 3 hats, and 5 pairs of slacks. Determine

a. the number of different outfits consisting of a shirt, tie, hat, and pair of slacks.

b. the number of different outfits consisting of a shirt, pair of slacks, and either a tie or a hat.

23.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Swimmers | Runners | Total |
| 9th Grade | 4 | 16 | 20 |
| 10th Grade | 16 | 64 | 80 |
| Total | 20 | 80 | 100 |

1. What is the probability of selecting a runner given that they are in 10th grade?
2. What is the probability of select a person who is a swimmer or 9th grader?
3. What is the probability of selecting a 9th grade runner?
4. What is the probability of selecting a swimmer given that they are in 9th grade?
5. What is the probability of selecting 2 students, a runner and a 9th grader?
6. What is the probability of selecting 2 students, a swimmer and a runner?