Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Probability Review: Venn Diagrams, Tables, & Words**

**Create a Venn Diagram for the following information.**

* ***Event A****: Gale, Allen, & Dante like scary movies*
* ***Event B****: Allen, Tim & Laura like comedy movies*
* *Gina & Kellie don’t prefer either of those 2 types*

1. List the **outcomes** *(also known as the sample space)* for A ∪ B. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. List the **outcomes** for A ∩ B. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. List the **outcomes** for A’. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Find P(B)
5. Find P(A ∪ B)’
6. Find P(A ∩ B)

**The table below represents a table about upperclassmen’s suggestions for a class activity.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Talent Show** | **Field Trip** | **Dance** |
| 10th | 4 | 8 | 2 |
| 11th | 5 | 3 | 6 |
| 12th | 2 | 1 | 9 |

1. Find P(11th)
2. Find P(Dance)
3. Find P(10th ∪ Dance)
4. Find P(Field Trip ∩ 11th)
5. Find 
6. Find P(10th | Field Trip)
7. Find P(Talent Show | 10th)
8. Which of the following are **mutually exclusive**?
9. Choosing a King or a Diamond in a deck of cards
10. Choosing a band student or math student in a classroom
11. Rolling 2 dice and getting an even sum or a sum less than 7
12. Choosing a Jack or a 5 in a deck of cards
13. Which of the following pair of events are **independent**?
14. P(A) = 0.08; P(B) = 0.4; P(A ∩ B) = 0.12
15. P(A) = 0.30; P(B) = 0.15; P(A ∩ B) = 0.045
16. P(A) = 0.16; P(B) = 0.24; P(A ∩ B) = 0.32

**The sum of 2 dice**

1. P(even sum or a sum greater than 9)
2. P(sum less than 7 or a sum greater than 10)
3. P(odd sum or a sum less than 8)

**Calendar – A month is chosen from a year**

1. Find the probability of choosing a month that begins with a vowel.
2. Find the probability of choosing a month starting with the letter M or J.
3. Find the probability of selecting a month that begins and ends with a consonant.
4. Find the probability of selecting a month that begins with a consonant and then selecting another month begins with a consonant (*without replacement*).
5. Find the probability of choosing a month that starts with a vowel given that they end in the letter R.

|  |  |  |
| --- | --- | --- |
|  | **Do you like PE?** | |
| **Yes** | **No** |
| Male | 38 | 12 |
| Female | 31 | 19 |

**PE Class Survey of 100 Students**

1. Use the data in the table to decide if liking PE is independent of your sex.