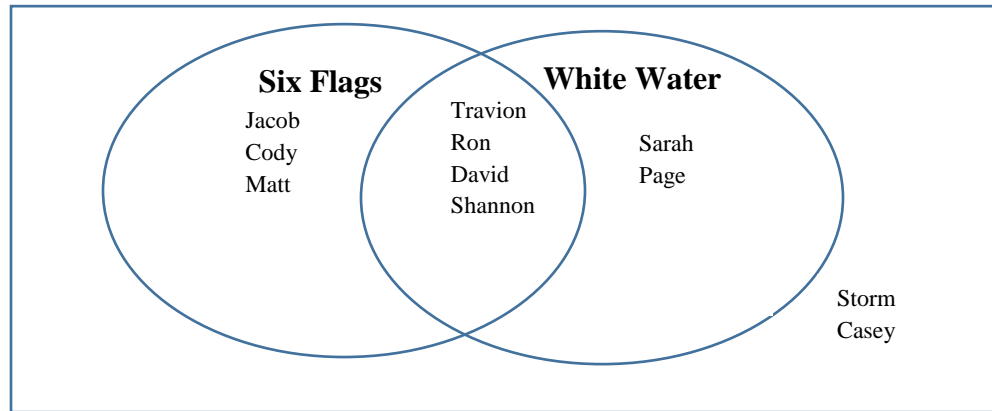## Station 1

This Venn diagram shows the name of students in Ms. Avery's class that like Six Flags and White Water.

Use the information in the Venn diagram above for questions 1 -3.

1. Find P($Six\ Flags\ \cup White\ Water$).

2. Find the P($Six\ Flags\ \cap White\ Water$).

3. Find P(Six Flags ∩ White Water')

4. Find P(Six Flags ∩ White Water)'

Station 2

1. If P(A) is the probability that an event will occur, which of the following must be <u>false</u>? **Can be more than one answer**

    A. $\frac{5}{3}$ B. 0   C. $-\frac{1}{4}$ D. $\frac{1}{5}$

2. Write in set notation: P(A or B) = _____

3. The complement of the intersection of sets A and B. _____

4. At Pizza City, Peperoni is a popular topping. If set P represent the number of peperoni pizza ordered and S represents the number of Sausage pizza ordered, **write the set notation of the intersection of the total pizzas topped with Peperoni and those topped with Sausage.**_____

1. A bag contains eight red marbles, seven blue marbles, and three green marbles. You randomly pick a marble and then pick a second marble **without returning** the marbles to the bag. What is the probability the first marble is red and the second is blue?

2. P(J) = 0.32   P(K) = 0.6

   Given that these are independent events, estimate P(J and K).

3. Which of the following events are independent given P(A), P(B), and P(A and B)? **(Can be more than one answer.)**

   a. $P(A) = \frac{1}{2}$ $P(B) = \frac{1}{2}$ $P(A \text{ and } B) = \frac{11}{40}$

   b. $P(A) = \frac{1}{5}$ $P(B) = \frac{3}{10}$ $P(A \text{ and } B) = \frac{3}{50}$
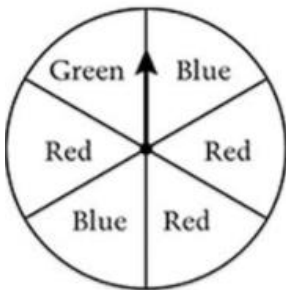
   c. $P(A) = 0.4$ $P(B) = 0.6$ $P(A \cap B) = 0.18$

   d. $P(A) = 0.3$ $P(B) = 0.4$ $P(A \cap B) = 0.12$

   e. $P(A) = \frac{3}{5}$ $P(B) = \frac{7}{10}$ $P(A \text{ and } B) = \frac{21}{50}$

   f. $P(A) = 0.2$ $P(B) = 0.45$ $P(A \cap B) = 0.09$

4. If a card is drawn and the spinner below is spun once, what is the probability of drawing a "j" and spinning a blue?

j	j	p	f	p	j
f	p	j	f	j	p

Station 4

1. The letters that spell **H I P P O P O T A M U S** are put into a bag. What is the probability of selecting a vowel and then, **without replacing,** selecting a P?

2. A bag contains four Falcons hats, 3 Hawks hats, and five Braves hats. You randomly pick a hat and then **return it** to the bag before picking another. What is the probability of picking a Braves hat the first time and a Falcons hat the second?

3. Your flip a coin three times. What is the probability that the first flip lands heads-up, the second flip lands heads-up, and the third flip lands on tails?

Station 5

1. In families that own more than one vehicle, 46% of them have a car and an SUV and 58% have an SUV. What percentage of families have car **given** that they have an SUV?

2. Of 750 people surveyed, 345 like Arby's, 405 like Zaxby's, and 286 like Arby's and Zaxby's. What is the probability that a person chosen at random likes Arby's **given** that they like Zaxby's?

3. When looking at the association between the events "speaking Spanish" and "speaking French", if the events are **independent**, then the probability:

    P($speaking\ Spanish|speaking\ French$) is equal to_____.

Station 6

	Sport Utility Vehicle (SUV)	Sports Car	Totals
male	21	39	60
female	135	45	180
Totals	156	84	240

MathBits.com

1. P(SUV I female)

2. P(Sports Car I Male)

3. P(female I sports car)

	High School Diploma	Bachelor's Degree	Master's/ Doctoral Degree	Total
Male	16	46		65
Female		51	3	
Total	28		6	

4. Fill in the table above

5. P(High School Diploma I Female)

6. P(Bachelor's Degree I Male)