Math 2 WS Sec 5.4 B Name: _____ Per _____

From Resources 5.4.A Practice

In Exercises 1 and 2, events *A* and *B* are disjoint. Find *P*(*A* or *B*).

1. $P(A) = 0.4,\ P(B) = 0.2$

2. $P(A) = \frac{1}{3},\ P(B) = \frac{1}{2}$

3. At the high school swim meet, you and your friend are competing in the 50 Freestyle event. You estimate that there is a 40% chance you will win and a 35% chance your friend will win. What is the probability that you or your friend will win the 50 Freestyle event?

In Exercises 4 and 5, you roll a six-sided die. Find *P*(*A* or *B*).

4. **Event *A*:** Roll a 2.
   Event *B*: Roll an odd number.

5. **Event *A*:** Roll an even number.
   Event *B*: Roll a number greater than 3.

6. You bring your cat to the veterinarian for her yearly check-up. The veterinarian tells you that there is a 75% probability that your cat has a kidney disorder or is diabetic, with a 40% chance it has a kidney disorder and a 50% chance it is diabetic. What is the probability that your cat has both a kidney disorder and is diabetic?

7. A game show has three doors. A Grand Prize is behind one of the doors, a Nice Prize is behind one of the doors, and a Dummy Prize is behind one of the doors. You have been watching the show for a while and the table gives your estimates of the probabilities for the given scenarios.

	Door 1	Door 2	Door 3
Grand Prize	0.25	0.45	0.3
Nice Prize	0.4	0.25	0.35
Dummy Prize	0.35	0.3	0.35

a. Find the probability that you win either the Grand Prize or a Nice Prize if you choose Door 1.

b. Find the probability that you win either the Grand Prize or a Nice Prize if you choose Door 2.

c. Find the probability that you win either the Grand Prize or a Nice Prize if you choose Door 3.

d. Which door should you choose? Explain.

From Resources 5.4.B Practice Problem 17 from text

6. An Educational Advisor estimates that there is a 90% probability that a freshman college student will take either a mathematics class or an English class, with an 80% probability that the student will take a mathematics class and a 75% probability that the student will take an English class. What is the probability that a freshman college student will take both a mathematics class and an English class?

17. **DRAWING CONCLUSIONS** A company is focus testing a new type of fruit drink. The focus group is 47% male. Of the responses, 40% of the males and 54% of the females said they would buy the fruit drink. What is the probability that a randomly selected person would buy the fruit drink? *(See Example 4.)*