CLASSWORK
19.1-19.3 # Probability and Set Theory

For Problems 1– 4, write each statement in set notation. Use the descriptions of the sets to the right to complete each statement.

1. the intersection of sets *A* and *B*

   _____

A =	{21, 23, 25, 27, 29}
B =	{21, 24, 27, 30}
U =	{20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30}

2. the complement of set *A*

   _____

3. the union of sets *A* and *B* _____

4. the number of elements in set *A* _____

Refer to the descriptions of the sets above to find the probabilities in Problems 5–7.

5. What is the probability that a number in *U* is *not* in *A*? _____

6. What is the probability that a number in *U* is in *A*∪*B*? _____

7. What is the probability that a number in *U* is *not* in *A* or *B*? _____

8. A travel agent is offering a vacation package. Participants choose the type of tour, a meal plan, and a hotel class from the chart to the right. How many different vacation packages are offered? _____

Tour	Meal	Hotel
Walking	Restaurant	4-Star
Boat	Picnic	3-Star
Bicycle		2-Star
		1-Star

9. There are 8 marbles in a bag, all of different colors. In how many orders can 4 marbles be chosen? _____

10. Gil's padlock can be opened by entering 3 digits in the right order (digits can be repeated). _____
    a) How many different orders of digits are there?
    b) What is the probability that someone could guess the right _____
    order on the first try?
    c) How many different orders are there if digits are not repeated?

1 . Mrs. Marshall has 11 boys and 14 girls in her kindergarten class. She decided to ask 2 boys to pass out snacks. In how many _____ ways can she select 2 boys? Show your calculations.

12. Later in the day Mrs. Marshall decides to ask 3 students to carry papers to the office. What is the probability that the 3 _____ students were all girls? Show your calculations.

13. Follow up to question #12.
    What is the probability that at least 2 of the students were girls? _____
    Show your calculations.