9.1 Set Theory and Probability

NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ HOUR: \_\_\_\_\_\_\_\_\_\_\_\_

1. Create and describe a SAMPLE SET A using at least ten numbers. Write it in set notation.

2. Create and describe another SAMPLE SET B using at least five numbers. Write it in set notation.

3. Create and describe a SUBSET C using numbers from set A. Write it in set notation.

Use the following sets for the following questions. The SAMPLE SPACE is the numbers 1 thru 14

Set D is the even numbers, Set E is the odd numbers, Set F is the multiples of 4 less than 15, Set G is the multiples of 3 less than 15.

4. Is $F⊂D?$ 5. Is $G⊂D?$ 6. Is $E⊂G?$

7. What is $D∪E?$ 8. What is $D∩E?$

9. What is $D∩F?$ 10. What is $E∩G?$

11. What is $F∪G?$ 12. What is $D^{c}?$

13. What is $E^{c}?$ 14. What is $G^{'}?$

15. What is $P\left(D\right)?$ 16. What is $P\left(G\right)?$

17. What is $P\left(G∪F\right)?$ 18. What is $P\left(E∩G\right)?$

Use rolling a six-sided dice for the following question.

19. Write the sample space in Set Notation?

20. What is the $P\left(4\right)?$ 21. What is the $P\left(3^{c}\right)?$

21. What is the $P\left(less than 4\right)?$ 22. What is the $P\left(Even\right)?$

Use flipping two coins for the following questions. Let T be Tails and H be Heads.

23. What is the sample space for flipping two coins?

24. What is $P\left(TT\right)?$ 25. What is $P\left(HH\right)?$

Use rolling two six-sided dice and sum them together, for the following Probability. For Example: 7 is the two dices numbers sum be 7.

26. Describe the Sample Space?

27. What is $P\left(7\right)?$ 28. What is $P\left(2\right)?$

29. What is $P\left(10\right)?$ 30. What is $P\left(8\right)?$