

ICM Unit 1 ~ Quiz Review

Name: _____

Given the following sets, determine whether each statement is true or false. Write out the word.

$U = \{ a,b,c,d,e,f,g,h \}$ $A = \{ a,c,d,e,g \}$ $B = \{ b,e,f,g,h \}$ $C = \{ a,e,g \}$

- | | | |
|--------------------|-----------------|----------------------------|
| 1. $A \subseteq B$ | 3. $f \in B$ | 5. $A = C$ |
| 2. $C \subseteq A$ | 4. $g \notin A$ | 6. $\emptyset \subseteq B$ |

Using the sets above, find...

- | | | |
|--------------------|--------------------|---------------|
| 7. $n(A \cup C) =$ | 8. $n(A \cap C) =$ | 9. $n(A^c) =$ |
|--------------------|--------------------|---------------|

Given the following sets:

$U = \{ 1,2,3,4,5,6,7,8,9 \}$ $A = \{ 1,2,3,4,5,6 \}$ $B = \{ 2,4,6,8 \}$

Find:

- | | |
|------------------|--------------------|
| 10. $A \cup B =$ | 12. $A \cap B^c =$ |
| 11. $A \cap B =$ | 13. $A^c \cap B =$ |

14. How many 7 digit phone numbers are possible if the first and second digits cannot be a zero or one?

15. In a 52 card deck, are drawing an ace and drawing a red card mutually exclusive?

16. Suppose you roll a pair of dice. Find the probability that:

Both dice show different numbers, and neither is a 3.

17. Out of a group of 120 students, 85 had been to Carowinds and 50 had been to Busch Gardens. 25 had been to both parks. Make a Venn Diagram for this.

a. How many students have been to Carowinds, but not Busch Gardens? _____

b. How many students have been to neither park? _____

18. How many possible ways are there to arrange all the letters in the word SENIORS? _____

19. I am trying to recall my friend's 7 digit cell phone number and I know the first digit is a 4, and the last three digits are 123. How many phone numbers are there that meet these requirements? _____

20. A bank plans to assign an identification code to each account. Each code will have 2 digits that can't be the same and then 2 letters. How many different account numbers can be formed? _____

21. Draw a Venn Diagram and shade the appropriate area for $A \cap B \cap C^c$.