

Name _____

CMSC203 - Homework Assignment 1 - Due Monday, February 28

1. Let $A = \{-3, -2, -1, 0, 1, 2, 3\}$ and $B = \{-4, -2, 0, 2, 4\}$ be subsets of the Universal Set $U = \{-5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5\}$. Verify by calculation that: $(A \cup B^c)^c = A^c \cap B$.

Name _____

CMSC203 - Homework Assignment 1 - Due Monday, February 28

2. If $A = \{ \{1\}, \emptyset \}$, find the Power Set of A.

Name _____

CMSC203 - Homework Assignment 1 - Due Monday, February 28

3. Find the truth table of the statement $[p \vee (q \wedge \sim r)] \rightarrow \sim q$.

Name _____

CMSC203 - Homework Assignment 1 - Due Monday, February 28

4. For the given set of premises, show the following is a valid argument.

$$\begin{array}{l} \sim r \wedge s \\ q \rightarrow r \\ p \wedge s \rightarrow t \\ p \vee q \\ \hline \therefore t \end{array}$$

Name _____

CMSC203 - Homework Assignment 1 - Due Monday, February 28

5. Use the Property of Sets to show that $A - (A - B) = A \cap B$.

Name _____

CMSC203 - Homework Assignment 1 - Due Monday, February 28

6. Give the converse, inverse, contrapositive and negation of the statement:
All people who live in glass houses do not throw stones.