First Name:_____ Last Name: _____

1. Simplify the following Boolean functions using three variables K-maps and express your answer in minimum sum of products and minimum product of sums.
a. $F(A,B,C) = \Sigma m(0, 1, 2, 3, 7)$
b. $F(A,B,C) = \Sigma m (3,5,6,7)$
c. $F(A,B,C) = \Pi M(0, 2, 3, 4, 6)$

2. Simplify the following Boolean functions using three variables K-maps and express your answer in minimum sum of products and minimum product of sums.
a. $F(A,B,C) = A'B' + BC + A'BC'$
b. $F = x'y + yz' + y'z'$

3. For the following Boolean expression $F = AC' + A'B'C + ABC' + AB'C$, determine
a. Truth table
b. Sum of min terms
c. Product of max terms
d. Standard sum of products
e. Standard product of sums
f. Minimum sum of products
g. Minimum products of sums
h. Gate implementation using all NAND gates
i. Gate implementation using all NOR gates.