CS-301 Computer Architecture
Assignment 5

Name:_____

1. Show that $YZ + XY\bar{Z} + \bar{X}\bar{Y}Z = XY + \bar{X}Z$

   a) Using truth tables

X	Y	Z		LHS		RHS
0	0	0				
0	0	1				
0	1	0				
0	1	1				
1	0	0				
1	0	1				
1	1	0				
1	1	1				

   b) Using Boolean identities

2. Simplify the following Boolean functions using Boolean algebra and its identities. List the identity used at each step.

a) $F(X,Y,Z) = \bar{X}Y + XY\bar{Z} + XYZ$

b) $F(X,Y,Z) = (\overline{X+Y})(\overline{\bar{X}+\bar{Y}})$