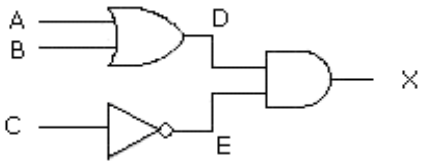
Part E [10 points]

Refer to the following circuit diagram for all questions in this Part.



1. Write a Boolean expression that represents the whole circuit.[3]

X = (A + B) • C′ - parentheses are NECESSARY!

2. Show how this circuit can be described in an Excel formula.[3]

= AND(OR(A ,B), NOT(C))

1 for AND(,)
1 for OR(A ,B)
1 for NOT(C)

3. Complete the Truth Table for this circuit, including Boolean expressions for D, E, and X. [4]

A	B	C	D	E	X
0	0	0	0	1	0
0	0	1	0	0	0
0	1	0	1	1	1
0	1	1	1	0	0
1	0	0	1	1	1
1	0	1	1	0	0
1	1	0	1	1	1
1	1	1	1	0	0

1 point for columns A,B, & C
1 point for each correct column