Homework 2; 31.67/60.00 (52.78%)

October 17, 2019

Problem 1 (score: 10/10)

(a) OK

(b) OK

Problem 2 (score: 5/10) [1]

(a) OK

(b) NOT ok (the "rule" you've used in second implication is not correct in general: $AB + CD \neq (A + C)(B + D)$ in general)

Problem 3 (score: 6.67/10) [2]

(a) OK

(b) not OK (you've also used the **Law of Involution**)

(c) OK

Problem 4 (score: 0/10) [3]

(a) NOT ok (you used **Distributive Law**)

(b) NOT ok (you used **Distributive Law**)

Problem 5 (score: 10/10)

OK

[1] similar problems: 2.10a, 2.10b (p. 50)

[2] similar problems: exercises 3b,3d from HW2

[3] similar problems: Use only DeMorgan's relationships and Involution to find the complements of the following functions: $f(A, B, C, D) = BCD'(C'D + B)' + A'CD + B'$ and $f(A, B, C, D, E, F) = A'(B + C)(D'E + F)' + (D'E + F)$

Problem 6 (score: 0/10) [4]

(a) NOT ok ; which law did you use when you wrote

$$F = Z(X + Y') + X'YZ$$
$$F = Z(X + Y') + (X + Y')Z?$$

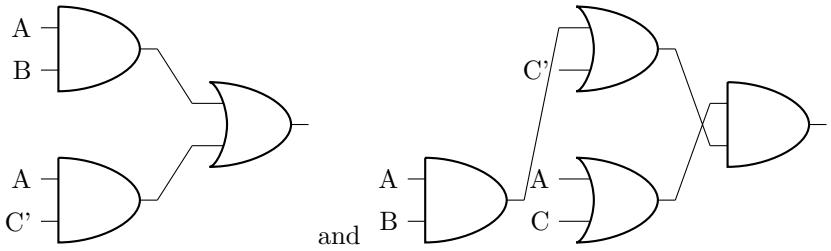
(b) NOT ok ; which law did you use when you wrote

$$F = (X + Y' + Z')(Z + X'Y)$$
$$F = ((X + Y') + Z')(Z + (Y' + X))?$$

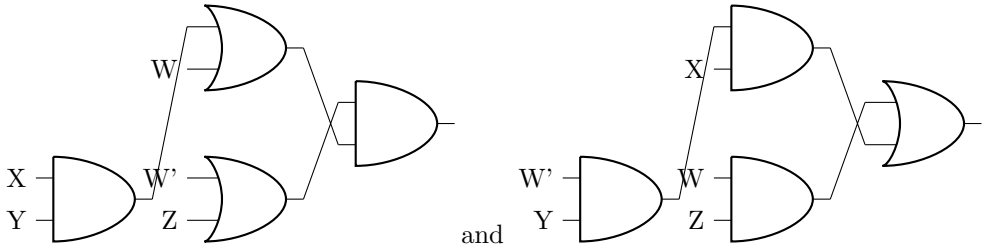
Make-up Problem 1

Show the equivalence of the following circles:

1.



2.



[4] similar problems: see Make-up Problem 1 below