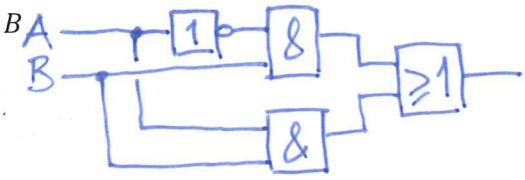
FACIT Övningar Boolesk algebra

1.

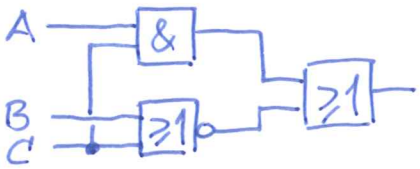
A	B	C	Y
0	0	0	1
0	0	1	0
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	0
1	1	1	1

2. a) $\overline{A+B}$

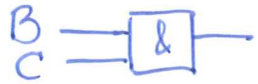
b) $\bar{A}B + AB = (\bar{A} + A)B = B$



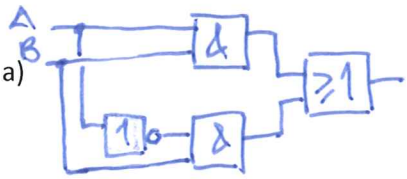
3. a) $\bar{A}\bar{B}\bar{C} + A\bar{B}\bar{C} + A\bar{B}C + ABC = \bar{B}\bar{C} + AC = \overline{B+C} + AC$



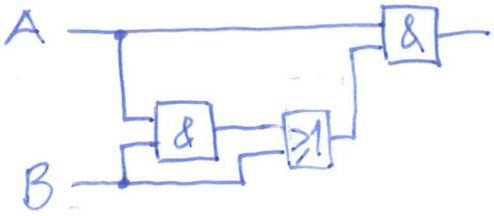
b) $\bar{A}BC + ABC = BC$



4. a)



b)



5. $\overline{\overline{A\bar{B}} + C + \bar{D}} + \overline{AB} + D$

6. a) $A(B + AB) = AB$ b) $\overline{A(\overline{B + AB})} = \bar{A} + B$

c) $\bar{A}(\overline{B + AB}) = A + B$ d) $\bar{A}(B + AB) = \bar{A}$

7. a) 0 b) $ABC + BCD + AB\overline{D}$ c) A

d) AC e) 1 f) $\bar{C}$

8.

A	B	C	Y
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	1
1	1	1	1

Sanningstabellen ger:

$\bar{A}\bar{B}C + \bar{A}BC + AB\bar{C} = \bar{A}\bar{B}C + \bar{A}BC + ABC + AB\bar{C} + ABC = \bar{A}\bar{B}C + BC + AB = C(\bar{A}\bar{B} + B) + AB = \bar{A}C + AB$

V.S.V.

9. $AC + BC = (A + B)C$