A + A.B = A | = A.(1) = A

A.(A+B) = A | = (A . A) + (A . B) = A

A + ~A.B= A + B| = (A + ~A . C) = (~A.(A +B)) = (~A . A+ ~A. ~B) = (0 + ~A . ~B) = (~A. ~B) = A + B

( A + B) . (A + C) = A + B . C | = A . A + A . C + B . A + B . C = A . (1+ ( C + B)) + B . C = A + B . C

1.

* A . ( A . B + C) | = A. A . A . B + A . C = A . B + A. C
* A . B + A . ~B + ~A . ~B | = A .(B + ~B) + ~A . ~B = A . 1 +~A. ~B = A + ~A . ~B
* A . B . C . A +A . ~B . ~C + ~A . B + ~A . ~B + A . B . ~A | = A . B . C + A . ~B. ~C + ~A . B + ~A . ~B + 0 . B = A. B . C + A . ~B . ~C + ~A . (B + ~B) + 0 = A . B . C + A . ~C + ~A
* A . ~C + A.B.~A + A . B . C +B . B.~C + B . ~A | = A . ~C + 0 . B + A . B . C + B . ~C + B . ~A = ~C. (A + B) + A . B . C + B . ~A
* A . B . C + C . A.B +A . B + A | = A . B . C + A . B + A
* B. C + A. D + A . B . C . D + C . D . A + ~A | =

2.

(A + B) . ( ~A + C) = (A + B) . (~A + C) . (B + C)

= (A + B) [~A.B + ~A.C + C.B + C.C]

= (A + B) [~AB + ~AC + CB + C]

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