Boolean Algebra

Jun 2-12:16 PM

Y = (A AND B) OR C

Y = (A OR C) AND (B OR C)

Distributive Law

Jun 2-12:17 PM

Commutative Law

Y = A AND B

Y = B AND A

(A AND B) OR (C OR D) = (C OR D) OR (A AND B)

Jun 2-12:24 PM

Associative Law

Y = A AND (B AND C)

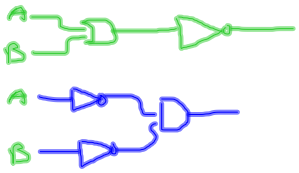
Y = (A AND B) AND C

Jun 2-12:24 PM

DeMorgans Law

T11 : De Morgan's Theorem

(a) $\overline{(A \text{ OR } B)} = \bar{A} \text{ AND } \bar{B}$



(b) $\overline{(A \text{ AND } B)} = \bar{A} \text{ OR } \bar{B}$

Jun 2-12:24 PM

[A OR (B OR C)] AND D

(A AND D) OR [(BOR C) AND D] Dist.

[A OR (B OR C)] AND D

[(B OR C) OR A] AND D Commutative Law

D AND [A OR (B OR C)]

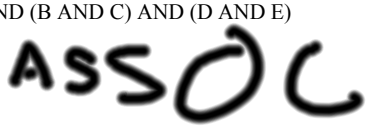
[A OR (C OR B)] AND D

Jun 2-12:28 PM

(A AND B) AND (C AND D) AND E

(A AND B) AND C AND (D AND E)

A AND (B AND C) AND (D AND E)



Jun 2-12:49 PM

[(A AND B) AND C] OR D OR E

E OR [(A AND B) AND C] OR D ~ Commutative

E OR [A AND (B AND C)] OR D ~ Associative

E OR (A OR D) AND [(B AND C) OR D] ~ Distributive

E OR (A OR D) AND [(B AND C) OR D]

Jun 2-12:54 PM

Homework

Apply 3 laws to each of the following (Do not just keep reversing laws)

A AND B OR (C AND D)
[C OR (A AND B)] AND [(D OR F) OR C]

Create a "from here" - "to here" problem that involves all four laws.

Jun 2-1:11 PM