

DMath_U1_bf

1.5

a.

A	B	C	$A \oplus B$	$(A \oplus B) \oplus C$
0	0	0	0	0
0	0	1	0	1
0	1	0	1	1
0	1	1	1	0
1	0	0	1	1
1	0	1	1	0
1	1	0	0	0
1	1	1	0	1

A	B	C	$B \oplus C$	$A \oplus (B \oplus C)$
0	0	0	0	0
0	0	1	1	1
0	1	0	1	1
0	1	1	0	0
1	0	0	0	1
1	0	1	1	0
1	1	0	1	0
1	1	1	0	1

→ these symbols are cute but not consistent with the definition in the question.

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$(A \oplus B) \oplus C \equiv A \oplus (B \oplus C)$ → try to have a complete concluding sentence.

b.

A	B	$\neg A$	$\neg B$	$\neg A \wedge \neg B$	$\neg(A \oplus B)$
0	0	1	1	1	1
0	1	1	0	0	0

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A	B	$\neg A$	$\neg B$	$\neg A \wedge \neg B$	$\neg(A \wedge B)$
1	0	0	1	0	0
1	1	0	0	1	1

$\neg A \wedge \neg B$ is 0.

$$\neg A \wedge \neg B \equiv \neg(A \wedge B) \quad \times$$

c.

A	B	C	F
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	1
1	0	1	0
1	1	0	1
1	1	1	0

A	B	C	$A \wedge B$	$(A \wedge B) \wedge C$	$(A \wedge B) \wedge ((A \wedge B) \wedge C)$	$A \wedge (A \wedge B) \wedge ((A \wedge B) \wedge C)$
0	0	0	0	0	0	0
0	0	1	0	1	1	1
0	1	0	1	1	0	0
0	1	1	1	0	1	1
1	0	0	1	1	0	1
1	0	1	1	0	1	0
1	1	0	0	0	0	1
1	1	1	0	1	1	0

$$F \equiv A \wedge (A \wedge B) \wedge ((A \wedge B) \wedge C) \quad \checkmark$$

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↓
try to have a complete concluding sentence & use the notation from the question