

1)a)

A	B	$\overline{A+B}$	\overline{A}	\overline{B}	$\overline{A} \cdot \overline{B}$
0	0	1	1	1	1
0	1	0	1	0	0
1	0	0	0	1	0
1	1	0	0	0	0



c)

A	B	C	A+B	$(A+B) \cdot C$	A.B	A.C	$(A.B) + (A.C)$
0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0
0	1	0	1	0	0	0	0
0	1	1	1	1	0	0	0
1	0	0	1	0	0	0	0
1	0	1	1	1	0	1	1
1	1	0	1	0	1	0	1
1	1	1	1	1	1	1	1



b) $A+B.C = (A+B) + (A+C) = A+B+A+C = A+B+C$

A	B	C	B.C	$A+(B.C)$	$A+B+C$
0	0	0	0	0	0
0	0	1	0	0	1
0	1	0	0	0	1
0	1	1	1	1	1
1	0	0	0	1	1
1	0	1	0	1	1
1	1	0	0	1	1
1	1	1	1	1	1



d) $A+A+B = A+B+B$ $A+B = A+B$

e) $A+B.C = A.C+B$

A	B	C	B.C	A+B.C	A.C	A.C+B
0	0	0	0	0	0	0
0	0	1	0	0	0	0
0	1	0	0	0	0	1
0	1	1	1	1	0	1
1	0	0	0	1	0	0
1	0	1	0	1	1	1
1	1	0	0	1	0	1
1	1	1	1	1	1	1



f) $A \oplus B = \overline{A} \oplus \overline{B}$

A	B	$A \oplus B$	\overline{A}	\overline{B}	$\overline{A} \oplus \overline{B}$
0	0	0	1	1	0
0	1	1	1	0	1
1	0	1	0	1	1
1	1	0	0	0	0

