

6) a)

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

←  $\overline{A}.\overline{B}$   
←  $\overline{A}.B$   
←  $A.B$

$$F = \overline{A}.\overline{B} + \overline{A}.B + A.B = \overline{A} (\overline{B} + B) + A.B = \overline{A} + A.B \quad \leftarrow$$

↓  
1

b)

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

←  $\overline{A}.\overline{B}.\overline{C}$   
←  $\overline{A}.\overline{B}.C$   
←  $A.\overline{B}.C$

$$F = \overline{A}.\overline{B}.\overline{C} + \overline{A}.\overline{B}.C + A.\overline{B}.C = \overline{A}.\overline{B}.C + \overline{B}.C(\overline{A} + A)$$

↓  
1

$$F = \overline{A}.\overline{B}.C + \overline{B}.C \quad \leftarrow$$

7)

A	B	C	D	Decimal	F
0	0	0	0	0	1
0	0	0	1	1	0
0	0	1	0	2	0
0	0	1	1	3	0
0	1	0	0	4	0
0	1	0	1	5	0
0	1	1	0	6	1
0	1	1	1	7	1
1	0	0	0	8	1
1	0	0	1	9	1
1	0	1	0	-	0
1	0	1	1	-	0
1	1	0	0	-	0
1	1	0	1	-	0
1	1	1	0	-	0
1	1	1	1	-	0

←  $\overline{A}.\overline{B}.\overline{C}.\overline{D}$   
  
←  $\overline{A}.B.C.\overline{D}$   
←  $\overline{A}.\overline{B}.C.D$   
←  $A.\overline{B}.\overline{C}.\overline{D}$   
←  $A.\overline{B}.C.D$