2.11 (a) F(A,B,C)=(A+B')C'+A'C

	A	B	C	A'	B'	C'	A+B'	(A+B')C'	A'C	F
0	0	0	0	1	1	1	1	1	0	1
1	0	0	1	1	1	0	1	0	1	1
2	0	1	0	1	0	1	0	0	0	0
3	0	1	1	1	0	0	0	0	1	1
4	1	0	0	0	1	1	1	1	0	1
5	1	0	1	0	1	0	1	0	0	0
6	1	1	0	0	0	1	1	1	0	1
7	1	1	1	0	0	0	1	0	0	0

F=$\sum$m(0,1,3,4,6)

(b) F(X,Y,Z)=(X+Y')(X'+Z)(Z+Y')

	X	Y	Z	X'	Y'	X+Y'	X'+Z	Z+Y'	F
0	0	0	0	1	1	1	1	1	1
1	0	0	1	1	1	1	1	1	1
2	0	1	0	1	0	0	1	0	0
3	0	1	1	1	0	0	1	1	0
4	1	0	0	0	1	1	0	1	0
5	1	0	1	0	1	1	0	1	0
6	1	1	0	0	0	1	1	0	1
7	1	1	1	0	0	1	1	1	1

F=$\sum$m(0,1,5,7)

(c) F(P,Q,R)=$\sum$m(2,3,4,6,7)
(d) F(A,B,C,D)=$\sum$m(0,4,5,6,8,11,12,13,14)

(e) F(W,X,Y,Z)=WZ'+(W'+X')YZ'+W'Z'X'

	W	X	Y	Z	W'	X'	Z'	W'+X'	(W'+X')YZ'	WZ'	W'Z'X'	F
0	0	0	0	0	1	1	1	1	0	0	1	1
1	0	0	0	1	1	1	0	1	0	0	0	0
2	0	0	1	0	1	1	1	1	1	0	1	1
3	0	0	1	1	1	1	0	1	0	0	0	0
4	0	1	0	0	1	0	1	1	0	0	0	0
5	0	1	0	1	1	0	0	1	0	0	0	0
6	0	1	1	0	1	0	1	1	1	0	0	1
7	0	1	1	1	1	0	0	1	0	0	0	0
8	1	0	0	0	0	1	1	1	0	0	0	0
9	1	0	0	1	0	1	0	1	0	1	0	1
10	1	0	1	0	0	1	1	1	1	0	0	0
11	1	0	1	1	0	1	0	1	0	0	0	0
12	1	1	0	0	0	0	1	0	0	1	0	1
13	1	1	0	1	0	0	0	0	0	0	0	0
14	1	1	1	0	0	0	1	0	0	1	0	1
15	1	1	1	1	0	0	0	0	0	0	0	0

F=$\sum$m(0,2,,6,8,10,12,14)

(f) F(A,B,C)=$\sum$m(0,1,2,3,4,5,6,7)
(g) F(A,B,C)= no minterm

2.12 (a) F(A,B,C)=(A+B')+C'+A'C

	A	B	C	A'	B'	C'	A+B'	A'C	F
0	0	0	0	1	1	1	1	0	1
1	0	0	1	1	1	0	1	1	1
2	0	1	0	1	0	1	0	0	1
3	0	1	1	1	0	0	0	1	1
4	1	0	0	0	1	1	1	0	1
5	1	0	1	0	1	0	1	0	1
6	1	1	0	0	0	1	1	0	1
7	1	1	1	0	0	0	1	0	1

F= No maxterm

(b) F(X,Y,Z)=(X+Y')(X'+Z)+ZY'
See the truth table of problem 2.10(2)
F=$\prod$M(2,3,4,6)

(c) F(P,Q,R,S)=(P+Q')R'+P'S'R'+PQ'(S'+R'+Q')

	P	Q	R	S	P'	Q'	R'	S'	(P+Q')R'	P'S'R'	PQ'(S'+R'+Q')	F
0	0	0	0	0	1	1	1	1	1	1	0	1
1	0	0	0	1	1	1	1	0	1	0	0	1
2	0	0	1	0	1	1	0	1	0	0	0	0
3	0	0	1	1	1	1	0	0	0	0	0	0
4	0	1	0	0	1	0	1	1	0	1	0	1
5	0	1	0	1	1	0	1	0	0	0	0	0
6	0	1	1	0	1	0	0	1	0	0	0	0
7	0	1	1	1	1	0	0	0	0	0	0	0
8	1	0	0	0	0	1	1	1	1	0	1	1
9	1	0	0	1	0	1	1	0	1	0	1	1
10	1	0	1	0	0	1	0	1	0	0	1	1
11	1	0	1	1	0	1	0	0	0	0	1	1
12	1	1	0	0	0	0	1	1	1	0	0	1
13	1	1	0	1	0	0	1	0	1	0	0	1
14	1	1	1	0	0	0	0	1	0	0	0	0
15	1	1	1	1	0	0	0	0	0	0	0	0

F=$\prod$M(2,3,5,6,7,14,15)

(d) F(A,B,C,D)=$\prod$M(2,3,4,6,8,9,10,12,13)
(e) F(A,B,C)=No maxterm
(f) F(A,B,C)=$\prod$M(0,1,2,3,4,5,6,7)

2.13 (a) XY'+X'Z+Y'Z=X'Y+X'Z
See the truth table of problem 2.4(1)
$\sum$m(1,3,4,5) NOT EQUAL TO $\sum$m(1,2,3)
-----> False

(b) (B'+C)(B'+D)=B'+CD
See the truth table of problem 2.4(2)
$\sum$m(0,1,2,3,7) = $\sum$m(0,1,2,3,7)
----> True