(3) $F'(W,X,Y,Z)=(W+X+Y(Z+W))(XYZ+X(W+X))(XY)$
$=(W+WY+X+YZ)(XYZ+XW+X)(XY)$
    T3(a)
$=(W+X+YZ)(XYZ+X)(XY)$
    T3(a)
$=WXY+XY+XYZ =XY+XYZ =XY$
    T3(a)

(4) $F'(A,B,C)=(A+B'+C)(ABC)(A'+B+CB)$
$=(ABC+AB'BC+ABC)(A'+B+BC)$
    P5(b)
$=(ABC+ABC)(A'+B)$
    T1(a)
$=ABC(A'+B)$
    P4(b)
$=A'ABC + ABC =ABC$
    P5(b)

(5) $F'(P,Q,R,S)=(P'+Q+(R+S))((P+Q)+R'+S)((P+QR)+S'+R)$
$=(P'+PR+PS+Q+QR+QS+S+R')((P+QR+R+S')(P+S'+R)$
    T4(a)
$=(P'+R+R'+PS+Q+S)(P+S'+R)$
    P5(a)
$=P+S'+R$
    T3(a)

2.10 (1) $F(A,B,C)=(A+B')C'+A'C$

A	B	C	A'	B'	C'	A+B'	(A+B')C'	A'C	F
0	0	0	1	1	1	1	1	0	1
0	0	1	1	1	0	1	0	1	1
0	1	0	1	0	1	0	0	0	0
0	1	1	1	0	0	0	0	1	1
1	0	0	0	1	1	1	1	0	1
1	0	1	0	1	0	1	0	0	0
1	1	0	0	0	1	1	1	0	1
1	1	1	0	0	0	1	0	0	0

Canonical SOP $=A'B'C'+A'B'C+A'BC+AB'C'+ABC'$
Canonical POS $=(A+B'+C)(A'+B'+C)(A'+B+C)$

(2) $F(X,Y,Z)=(X+Y')(X'+Z)+ZY'$

X	Y	Z	X'	Y'	X+Y'	X'+Z	(X+Y')(X'+Z)	ZY'	F
0	0	0	1	1	1	1	1	0	1
0	0	1	1	1	1	1	1	1	1
0	1	0	1	0	0	1	0	0	0
0	1	1	1	0	0	1	0	0	0
1	0	0	0	1	1	0	0	0	0
1	0	1	0	1	1	1	1	1	1
1	1	0	0	0	1	0	0	0	0
1	1	1	0	0	1	1	1	0	1

Canonical SOP $=X'Y'Z'+X'Y'Z+XY'Z'+XY'Z+XYZ$
Canonical POS $=(X+Y'+Z)(X+Y'+Z')(X'+Y+Z)(X'+Y+Z')(X'+Y'+Z)$

(3) $F(A,B,C,D)=AB'C+A'BC'D+A'BCD'+B'D'$

	A	B	C	D	A'	B'	C'	D'	AB'C	A'BC'D	A'BCD'	AB'CD'	B'D'	F
0	0	0	0	0	1	1	1	1	0	0	0	0	1	1
1	0	0	0	1	1	1	1	0	0	0	0	0	0	0
2	0	0	1	0	1	1	0	1	0	0	0	0	1	1
3	0	0	1	1	1	1	0	0	0	0	0	0	0	0
4	0	1	0	0	1	0	1	1	0	0	0	0	0	0
5	0	1	0	1	1	0	1	0	0	1	0	0	0	1
6	0	1	1	0	1	0	0	1	0	0	1	0	0	1
7	0	1	1	1	1	0	0	0	0	0	0	0	0	0
8	1	0	0	0	0	1	1	1	0	0	0	0	1	1
9	1	0	0	1	0	1	1	0	0	0	0	0	0	0
10	1	0	1	0	0	1	0	1	1	0	0	1	1	1
11	1	0	1	1	0	1	0	0	1	0	0	0	0	1
12	1	1	0	0	0	0	1	1	0	0	0	0	0	0
13	1	1	0	1	0	0	1	0	0	0	0	0	0	0
14	1	1	1	0	0	0	0	1	0	0	0	0	0	0
15	1	1	1	1	0	0	0	0	0	0	0	0	0	0

Canonical SOP $=A'B'C'D'+A'B'CD'+A'BC'D+A'BCD'+AB'C'D'+AB'CD'+AB'CD$
Canonical POS $=(A+B+C+D')(A+B+C'+D')(A+B'+C'+D')(A+B'+C'+D)(A+B'+C+D')$
$(A'+B+C+D')(A'+B+C'+D)(A'+B+C'+D')(A'+B'+C+D)(A'+B'+C+D')$
$(A'+B'+C'+D)(A'+B'+C'+D')$

(4) $F(W,X,Y,Z)=WX'+Z'(Y'+W')+W'Z'Y'$

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

Canonical SOP $=W'X'Y'Z'+W'X'YZ'+W'XY'Z'+W'XYZ'+WX'Y'Z'+WX'Y'Z+WX'YZ'+WX'YZ+WXY'Z'$
Canonical POS $=(W+X+Y+Z')(W+X+Y'+Z')(W+X'+Y+Z')(W+X'+Y'+Z')(W'+X+Y'+Z')(W'+X'+Y+Z)(W'+X'+Y'+Z)(W'+X'+Y'+Z')$