

3.1

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

3.2

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

3.3

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

3.4 a) $F = A'B'C + A'BC' + AB'C' + ABC$

b) $F = A'B'C'D' + A'B'CD + A'BC'D + A'BCD' + AB'C'D + AB'CD' + ABC'D' + ABCD$

c) $F = A'B'C'D' + A'B'CD + A'BCD' + AB'C'D + ABCD'$

3.5

A	B	C	AC	A'B	BC	F	G
0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0
0	1	0	0	1	0	1	1
0	1	1	0	1	1	1	1
1	0	0	0	0	0	0	0
1	0	1	1	0	0	1	1
1	1	0	0	0	0	0	0
1	1	1	1	0	1	1	1

$F = AC + A'B + BC$ $G = AC + A'B$

Consensus theorem

3.6 $(A+BC)(A+DE) = A + BCDE$

$(A+BC)A + (A+BC)DE$

$AA + ABC + ADE + BCDE$

$A + BC + DE + BCDE$

$= A + BCDE$