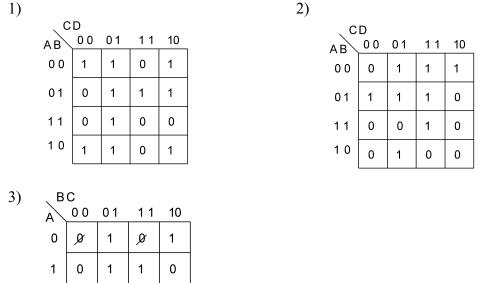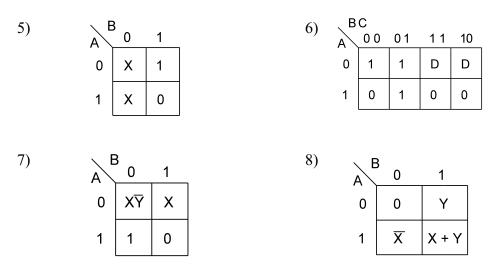Loop out SOP minimum cover for the functions shown in the K-maps below and write the boolean expression for the reduced functions. Show which loop each term comes from.

1)

AB\CD	0 0	0 1	1 1	1 0
0 0	1	1	0	1
0 1	0	1	1	1
1 1	0	1	0	0
1 0	1	1	0	1

2)

AB\CD	0 0	0 1	1 1	1 0
0 0	0	1	1	1
0 1	1	1	1	0
1 1	0	0	1	0
1 0	0	1	0	0

3)

A\BC	0 0	0 1	1 1	1 0
0	$\emptyset$	1	$\emptyset$	1
1	0	1	1	0

Loop out SOP cover and write the reduced functions that result for the entered variable K-maps below. Show which loop each term comes from.

5)

A\B	0	1
0	X	1
1	X	0

6)

A\BC	0 0	0 1	1 1	1 0
0	1	1	D	D
1	0	1	0	0

7)

A\B	0	1
0	X$\overline{Y}$	X
1	1	0

8)

A\B	0	1
0	0	Y
1	$\overline{X}$	X + Y

Keep in mind the idea of sub-maps to understand the contents of a cell with entered variables.