



$$Q_2 = 0$$

Truth table for  $Q_2 = 0$ :

$Q_1$ \ $xy$	00	01	11	10
00				
01				
11				
10				

$$Q_2 = 1$$

Truth table for  $Q_2 = 1$ :

$Q_1$ \ $xy$	00	01	11	10
00	x	x	x	x
01				
11	1	1	1	1
10				

Truth table for  $Q_2 = 0$  (repeated):

$Q_1$ \ $xy$	00	01	11	10
00				
01				
11	1	1	1	1
10				

Truth table for  $Q_2 = 1$  (repeated):

$Q_1$ \ $xy$	00	01	11	10
00	x	x	x	x
01				
11				
10				

$$A = Q_2 Q_1 Q_0$$

$$B = \overline{Q_2} Q_1 Q_0$$

$Q_2 = 0$

$Q_1 \backslash xy$	00	01	11	10
00				1
01			1	
11				
10				

$Q_2 = 1$

$Q_1 \backslash xy$	00	01	11	10
00	X	X	X	X
01	1	1		
11	1		1	1
10	1	1		1

$$Q_2 = Q_1 \bar{y} + \bar{a}_1 \bar{x} + \bar{a}_0 \bar{x} + Q_1 Q_0 x + \bar{Q}_1 \bar{Q}_0 x \bar{y} + Q_2 \bar{Q}_1 Q_0 x y$$

$Q_1$

$Q_1 \backslash xy$	00	01	11	10
00				
01			1	1
11	1	1		
10	1			1

$Q_1$

$Q_1 \backslash xy$	00	01	11	10
00	X	X	X	X
01		1		
11	1			1
10	1	1		

$$Q_1 = Q_2 \bar{Q}_0 \bar{x} + \bar{Q}_2 \bar{Q}_1 Q_0 x + \bar{Q}_2 Q_1 \bar{a}_0 \bar{y} + Q_2 Q_1 Q_0 \bar{x} + Q_2 Q_1 Q_0 \bar{y} + Q_2 \bar{Q}_1 \bar{a}_0 y$$

$Q_1$

$Q_1 \backslash xy$	00	01	11	10
00	0	1		1
01	1		1	
11	1		1	
10		1		1

$Q_1$

$Q_1 \backslash xy$	00	01	11	10
00	X	X	X	X
01	1		1	
11	1		1	
10		1		1

$$Q_0 = Q_0 \bar{x} \bar{y} + Q_0 x y + \bar{Q}_0 \bar{x} y + \bar{Q}_0 x \bar{y}$$

$$Q_2 = 0$$

$Q_2 \backslash xy$	00	01	11	10
00				
01				
11	1	1	1	1
10				

$$Q_2 = 1$$

$Q_2 \backslash xy$	00	01	11	10
00	x	x	x	x
01				
11				
10				

$$B = \overline{Q_2} Q_1 Q_0$$

$Q_2$   $Q_1$   $Q_0$   $x$   $y$   $\overline{Q_2}$   $\overline{Q_1}$   $\overline{Q_0}$   $\overline{x}$   $\overline{y}$

