



$$X = \overline{A_2} \overline{A_1} B_1 B_0 + \overline{A_2} \overline{A_1} B_0 \overline{D} + \overline{A_1} \overline{A_0} \overline{B_0} \overline{D} + \overline{A_2} A_1 \overline{B_0} \overline{D} + \overline{A_0} B_1 B_0 + \overline{A_1} \overline{A_0} \overline{B_1} B_0 + \overline{A_2} \overline{A_1} A_0 B_0 + \overline{A_2} A_1 \overline{A_0} \overline{B_1} B_0 \overline{D}$$

or

$$X = \overline{A_2} \overline{A_1} B_1 B_0 + \overline{A_2} \overline{A_1} B_0 \overline{D} + \overline{A_1} \overline{A_0} \overline{B_0} \overline{D} + \overline{A_2} A_1 \overline{B_0} \overline{D} + \overline{A_0} B_1 B_0 + \overline{A_1} \overline{A_0} \overline{B_1} B_0 + \overline{A_2} \overline{A_1} \overline{B_1} B_0 + \overline{A_2} A_1 \overline{A_0} \overline{B_1} B_0 \overline{D}$$

A

	$S_1 S_0$		S_0		S_1	
	00	01	11	10		
I	0					
	0	0	0	0		
	000	010	110	100		
I	1					
	001	011	111	101		
	1	0	0	0		

$$A = \underline{I \overline{S_1} \overline{S_0}}$$

B

		S_0		S_1	
		$S_1 S_0$			
		00	01	11	10
I	0	0	0	0	0
	1	0	1	0	0

(Note: In the original image, the cell containing '1' is highlighted with a red border. The minterms 000, 010, 110, 100, 001, 011, 111, and 101 are labeled in blue below the table.)

$$A = \underline{I S_1 \overline{S_0}}$$

C

	$S_1 S_0$		S_0		S_1	
	00	01	11	10		
I	0					
	0	0	0	0		
	000	010	110	100		
I	1					
	0	0	1	0		
	001	011	111	101		

$$A = \underline{I \bar{S}_1 S_0}$$

D

		S_0		S_1	
		$S_1 S_0$			
		00	01	11	10
I	0	0	0	1	0
	1	0	0	0	0
		000	010	110	100
		001	011	111	101

$$A = \underline{I S_1 S_0}$$