Show All Solutions

Rosen, Discrete Mathematics and Its Applications, 6th edition
Extra Examples

Section 11.2—Representing Boolean Functions

Extra Examples — *Page references correspond to locations of Extra Examples icons in the textbook.*

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p.758, icon at Example 3

#1. Find a Boolean function $f(x, y, z)$ that has the following element table:

x	y	z	$f(x, y, z)$
1	1	1	0
1	1	0	1
1	0	1	1
1	0	0	0
0	1	1	0
0	1	0	1
0	0	1	1
0	0	0	0

See Solution

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p.758, icon at Example 3

#2. Let $f(x, y, z) = \overline{z} + \overline{x}z$.

(a) Find the sum-of-products expansion (disjunctive normal form) for f.

(b) Find the product-of-sums expansion (conjunctive normal form) for f.

See Solution