Terminology and Implicants

9/30/15

Terminology---True or False. If False, give a counterexaple.

1. $f_1(x,y,z) = (x+y)(\overline{x}+z) + xyz,\ f_2(x,y,z) = xyz$
$f_1 \to f_2$

2. $f_1(x,y,z) = (x+y)(\overline{x}+z) + xyz,\ f_2(x,y,z) = (x+y)$
$f_1 \to f_2$

3. $f_1(x,y,z) = (x+y)(\overline{x}+z) + xyz,\ f_2(x,y,z) = (x+y)(\overline{x}+z)$
$f_2 \to f_1$

4. $f_1(x,y,z) = (x+y)(\overline{x}+z) + xyz,\ f_2(x,y,z) = (x+y)(\overline{x}+z) + xyz + \overline{x}\,\overline{y}z$
$f_2 \to f_1$

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Prime Implicants

1. Given the following truthtable for $f(x, y, z)$, list the prime implicants of f.

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