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

1. $f_1(x, y, z) = (x + z)(y + z)(\bar{y} + \bar{z})$, $f_2(x, y, z) = \bar{y}z$
$$f_1 \rightarrow f_2$$

2. $f_1(x, y, z) = (x + z)(y + z)(\bar{y} + \bar{z})$, $f_2(x, y, z) = \bar{y}z$
$$f_2 \rightarrow f_1$$

3. $f_1(x, y, z) = (x + z)(y + z)(\bar{y} + \bar{z})$, $f_2(x, y, z) = (x + z)$
$$f_1 \rightarrow f_2$$

4. $f_1(x, y, z) = (x + z)(y + z)(\bar{y} + \bar{z})$, $f_2(x, y, z) = (x + z)(y + z)(\bar{y} + \bar{z})(x + z + y)$
$$f_1 \rightarrow f_2$$

5. $f_1(x, y, z) = (x + z)(y + z)(\bar{y} + \bar{z})$, $f_2(x, y, z) = (x + z)(y + z)(\bar{y} + \bar{z})(x + z + y)$
$$f_2 \rightarrow f_1$$

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	0
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	1

Prime Implicants

2. 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	0
0	0	1	0
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	0
1	1	1	1