Name: _____
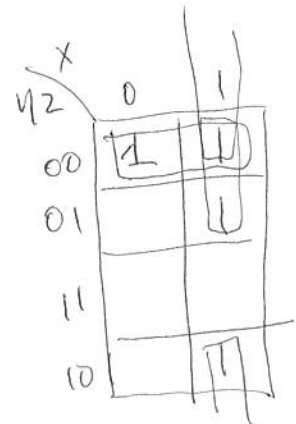
1. Complete the truth table using $f = \sum m(0,4,5,6)$.

x	y	z	f
0	0	0	1
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0

2. Use algebraic manipulation to find the minimum sum-of-products of f.

$$f = \bar{x}\bar{y}\bar{z} + x\bar{y}\bar{z} + x\bar{y}z + xy\bar{z}$$
$$= (\bar{x}+x)\bar{y}\bar{z} + x(\bar{y}+y)\bar{z} + x\bar{y}(\bar{z}+z)$$
$$= \bar{y}\bar{z} + x\bar{z} + x\bar{y}$$

3. Implement f using NAND only gates.