

Worksheet 2

Logic Circuit

1. Identify each of these logic gates by name, and complete their respective truth tables.



A	B	Output
0	0	
0	1	
1	0	
1	1	



A	B	Output
0	0	
0	1	
1	0	
1	1	



A	B	Output
0	0	
0	1	
1	0	
1	1	



A	B	Output
0	0	
0	1	
1	0	
1	1	



A	B	Output
0	0	
0	1	
1	0	
1	1	



A	B	Output
0	0	
0	1	
1	0	
1	1	



A	B	Output
0	0	
0	1	
1	0	
1	1	



A	B	Output
0	0	
0	1	
1	0	
1	1	



A	Output
0	
1	

2. Find the bitwise OR, bitwise AND, and bitwise XOR of the following.
- 00 111 101, 00 010 101
 - 00 010 101, 01 011 111
 - 00 011 111, 01 001 001
 - 00 111 001, 00 110 101
3. Construct circuits from inverters, AND gates and OR gates to produce these outputs.
- $\bar{x} + y$
 - $xyz + \bar{x}\bar{y}\bar{z}$
 - $(x + y)x$
 - $\overline{(\bar{x} + z)(y + \bar{z})}$