Boolean Logic Worksheet

1. Complete the following truth table.

A	B	AND	OR	XOR	NOT A	NAND	NOR
0	0						
0	1						
1	0						
1	1						

2. Complete the following truth table for the Boolean expression

A AND (**B** OR **A**)

A	B	(B OR A)	A AND (B OR A)
0	0		
0	1		
1	0		
1	1		

3. Complete the following truth table for the Boolean expression

NOT **A** AND **B** XOR **A**

A	B	NOT A	NOT A **AND** B	NOT A AND B **XOR** A
0	0			
0	1			
1	0			
1	1			

4. Create a truth table for the Boolean expression

A NAND (**B** NOR **A**)

A	B	(B NOR A)	A NAND (B NOR A)
0	0		
0	1		
1	0		
1	1		

5. Complete the following truth table for the Boolean expression

   (**A** XOR **B**) OR (**A** NAND **C**)

A	B	C	(A XOR B)	(A NAND C)	OR
0	0	0			
0	1	0			
1	0	0			
1	1	0			
0	0	1			
0	1	1			
1	0	1			
1	1	1			

(NOT)   (OR)   (AND)   (NOR)   (NAND)   (XOR)

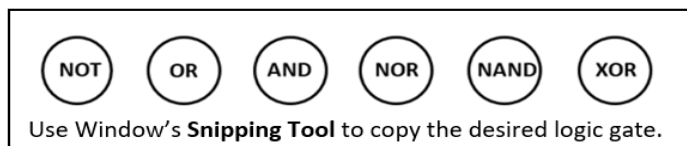Use Window's **Snipping Tool** to copy the desired logic gate.

6. Create a logic diagram for the following Boolean expression.

   (**A** AND **B**) OR **B**
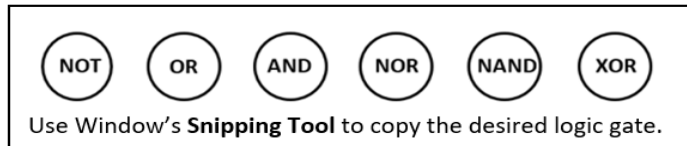
7. Create a logic diagram for the following Boolean expression.

   (A OR NOT B) OR (A NAND B)

8. Create a logic diagram for the following Boolean expression.

   A OR (A XOR B)

Use Window's **Snipping Tool** to copy the desired logic gate.

9. Create a logic diagram for the following Boolean expression.

A XOR B OR B AND C