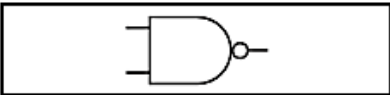
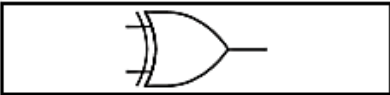
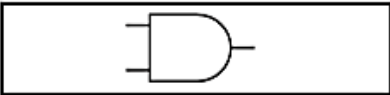
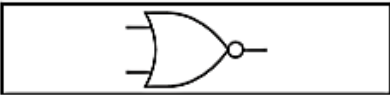
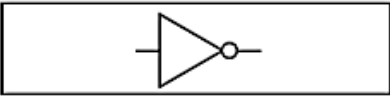
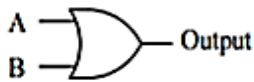


**GRADE 8**  
**WORKSHEET : CHAPTER-3**  
**LOGIC GATES AND LOGIC CIRCUITS**

1. The diagram below shows five logic gate symbols and five names. Draw a line between each logic gate symbol and its correct name.

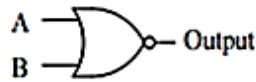
Logic Gate Symbol	Name
	AND
	NOT
	NOR
	XOR
	NAND

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



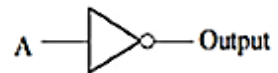
A	B	Output
0	0	
0	1	
1	0	
1	1	

i) \_\_\_\_\_



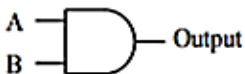
A	B	Output
0	0	
0	1	
1	0	
1	1	

ii) \_\_\_\_\_



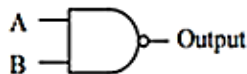
A	Output
0	
1	

iii) \_\_\_\_\_



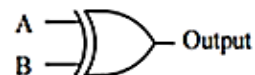
A	B	Output
0	0	
0	1	
1	0	
1	1	

iv) \_\_\_\_\_



A	B	Output
0	0	
0	1	
1	0	
1	1	

v) \_\_\_\_\_



A	B	Output
0	0	
0	1	
1	0	
1	1	

vi) \_\_\_\_\_

3.Rajesh creates a logic circuit.He uses three different logic gates in his circuit. Each logic gate has a maximum of two inputs.

He describes the logic of each gate.

(a) “The only time the output will be 1 is when both inputs are 1.”

State the single logic gate : .....

Draw the single logic gate:



(b) “The only time the output will be 1 is when both inputs are 0.”

State the single logic gate .....

Draw the single logic gate:



(c) “The only time the output will be 0 is when both inputs are 1.”

State the single logic gate .....

Draw the single logic gate:



(c) ”The only one input and one output. Output is opposite of input”

State the single logic gate .....

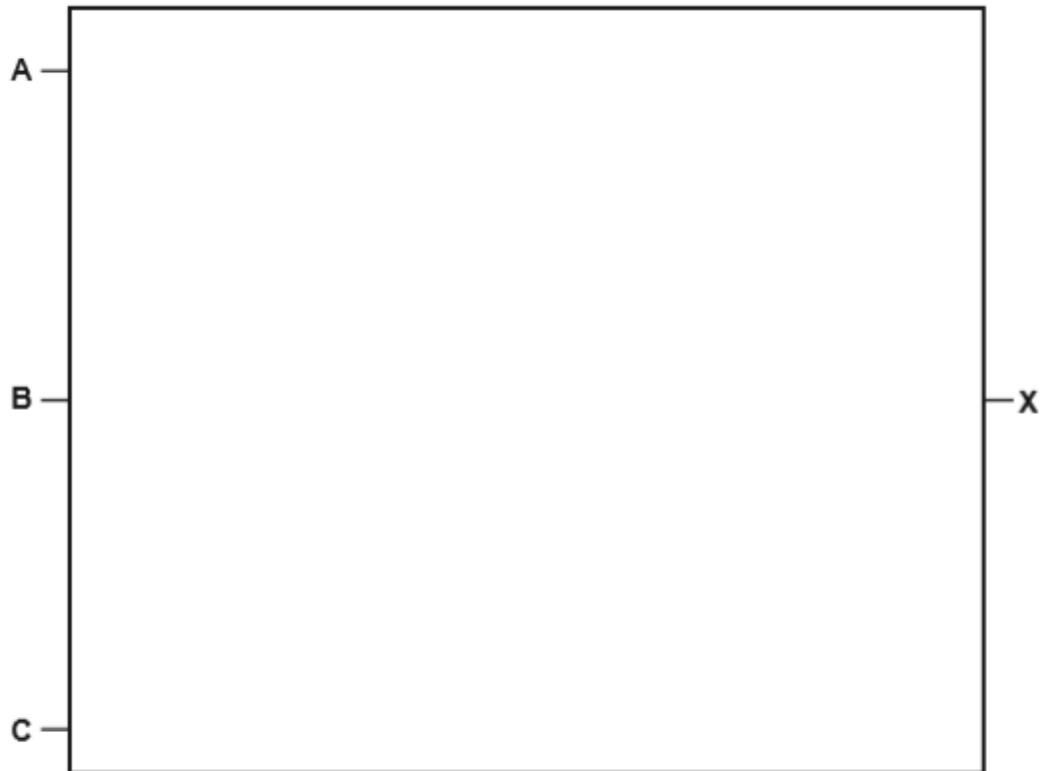
Draw the single logic gate:



For this logic statement:

$X = 1$  if  $((A \text{ is NOT } 1 \text{ AND } B \text{ is } 1) \text{ OR } (B \text{ is } 1 \text{ AND } C \text{ is NOT } 1))$

(a) Draw the logic circuit.



(b)

Complete the truth table for the given logic statement.

A	B	C	Working space	X
0	0	0		
0	0	1		
0	1	0		
0	1	1		
1	0	0		
1	0	1		
1	1	0		
1	1	1		