

Truth tables come up in exams regularly

08.1 Complete the truth table for the XOR logic gate

 A
 B
 A XOR B

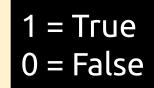
 0
 0
 0

 0
 1
 0

 1
 0
 1

 1
 1
 1

[2 marks]



State the name of the logic gate represented by the following truth table.

[1 mark]

Input A	Input B	Output	
0	0	0	
0	1	0	
1	0	0	
1	1	1	

Logic gate

0 3

0

8

1 = True 0 = False

Complete the truth table for the AND logic gate.

 A
 B
 A AND B

 0
 0
 0

 0
 1
 0

 1
 0
 0

 1
 1
 0

Truth Tables NOT(A AND B)

Α	В	NOT(A AND B)
1	1	
1	0	
0	1	
0	0	

Can you also:

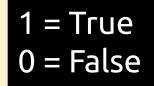
- write the notation form for the logic statement?
- draw the circuit diagram?

Truth Tables NOT(A AND B)

Α	В	A AND B	NOT(A AND B)
1	1		
1	0		
0	1		
0	0		

Can you also:

- write the notation form for the logic statement?
- draw the circuit diagram?



Truth Tables (NOT A) OR B

Α	В	(NOT A) OR B
1	1	
1	0	
0	1	
0	0	

Can you also:

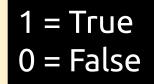
- write the notation form for the logic statement?
- draw the circuit diagram?

Truth Tables (NOT A) OR B

Α	В	ΝΟΤΑ	(NOT A) OR B
1	1		
1	0		
0	1		
0	0		

Can you also:

- write the notation form for the logic statement?
- draw the circuit diagram?



(A OR B) AND C

Α	В	С	(A OR B) AND C
1	1	1	
1	1	0	
1	0	1	
1	0	0	
0	1	1	
0	1	0	
0	0	1	
0	0	0	

(A OR B) AND C

Α	В	С	A OR B	(A OR B) AND C
1	1	1		
1	1	0		
1	0	1		
1	0	0		
0	1	1		
0	1	0		
0	0	1		
0	0	0		

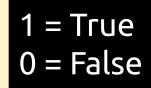
(A AND B) OR NOT C

Α	В	С	(A AND B) OR NOT C
1	1	1	
1	1	0	
1	0	1	
1	0	0	
0	1	1	
0	1	0	
0	0	1	
0	0	0	

1 = True 0 = False

(A AND B) OR NOT C

A	В	С	R = A AND B	S = NOT C	R OR S = (A AND B) OR NOT C
1	1	1			
1	1	0			
1	0	1			
1	0	0			
0	1	1			
0	1	0			
0	0	1			
0	0	0			



Complete the truth table for the Boolean expression:

5

0

5

(X AND Y) OR (NOT X)

[3 marks]

x	Y	X AND Y	NOT X	(X AND Y) OR (NOT X)
0	0			
0	1		2	
1	0			
1	1			