

# Logic Exercises

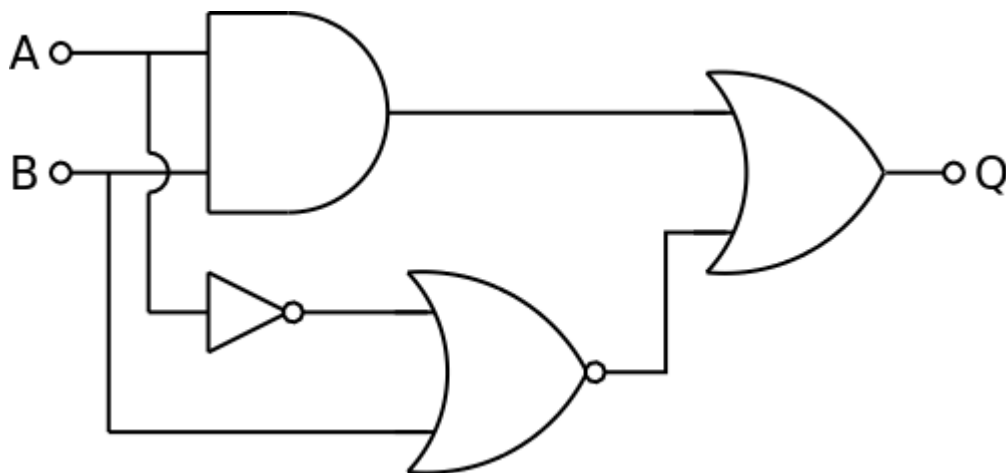
## Question 1

Draw the correct symbol and truth table for each of the following logic gates

- a) NOT gate
- b) AND gate
- c) OR gate
- d) NAND gate
- e) NOR gate

## Question 2

Complete the truth table for the following logic circuit



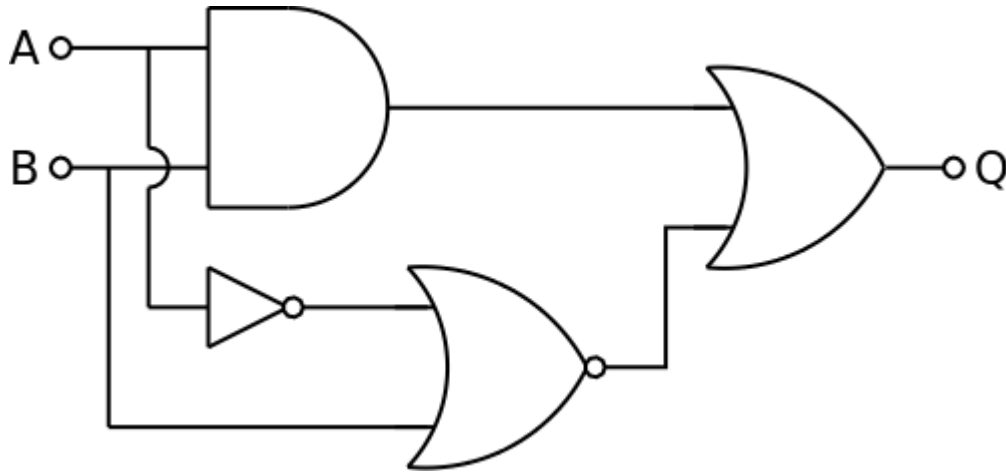
## Question 3

Draw the NAND gate equivalents for each of the following logic gates

- a) NOT
- b) AND
- c) OR
- d) NOR

### Question 4

Simplify the following circuit using only NAND gates by (a) replacing each logic gate with the correct NAND equivalent circuit and (b) removing any redundant logic gates



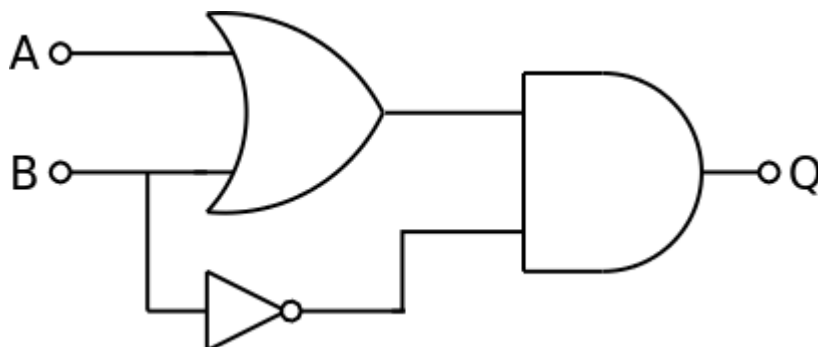
### Question 5

Write down the Boolean expressions for each of the following logic operations

- a) NOT
- b) AND
- c) OR
- d) NAND
- e) NOR

### Question 6

Write down the Boolean expression for the following logic circuit



## Question 7

Write down the Boolean expression for the following truth table

A	B	C	Q
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	0
1	1	1	0