Gates Exercises

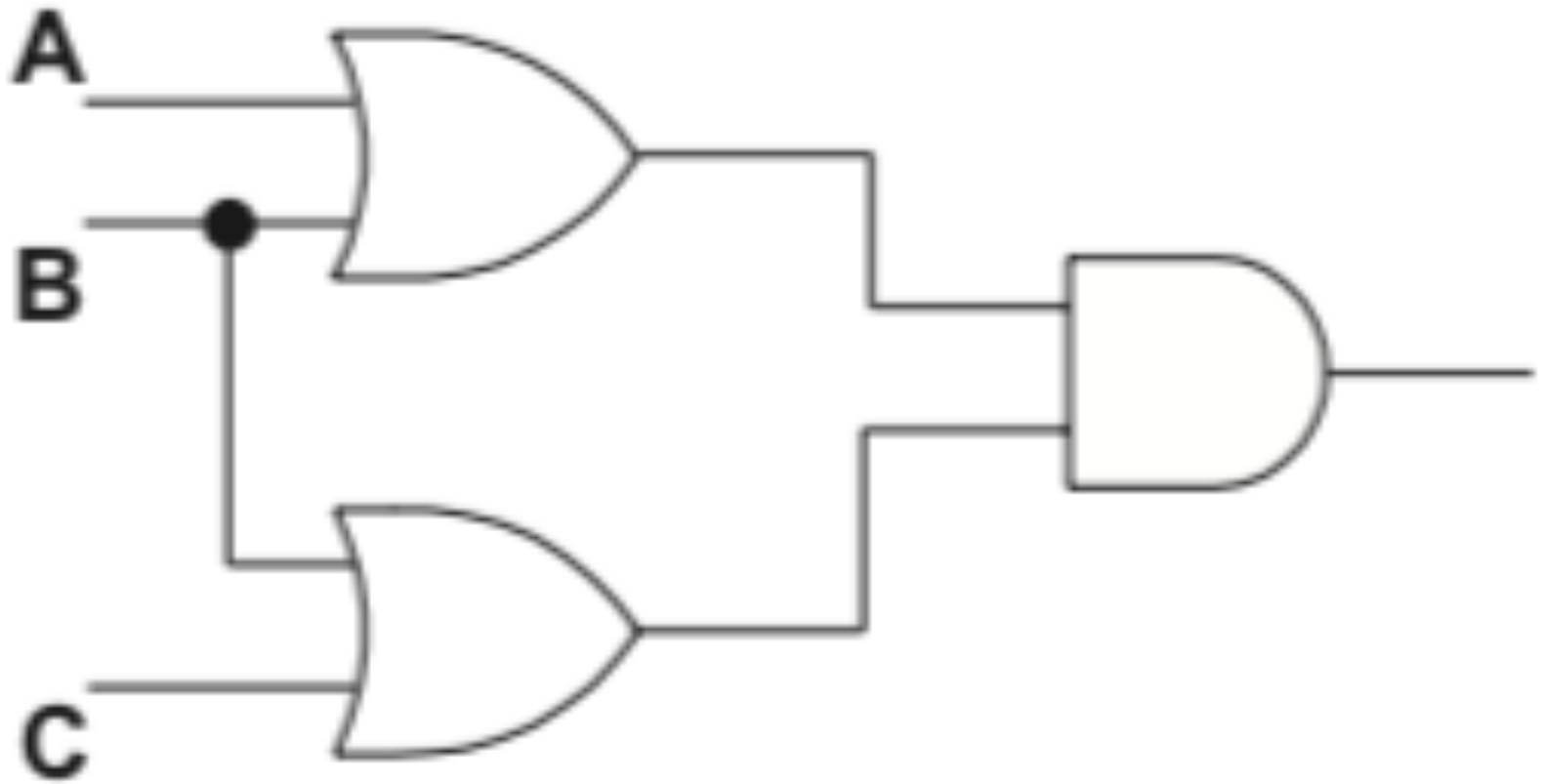
1. Draw a circuit diagram given the following Boolean expression

$(A + B) \cdot (B + C)$

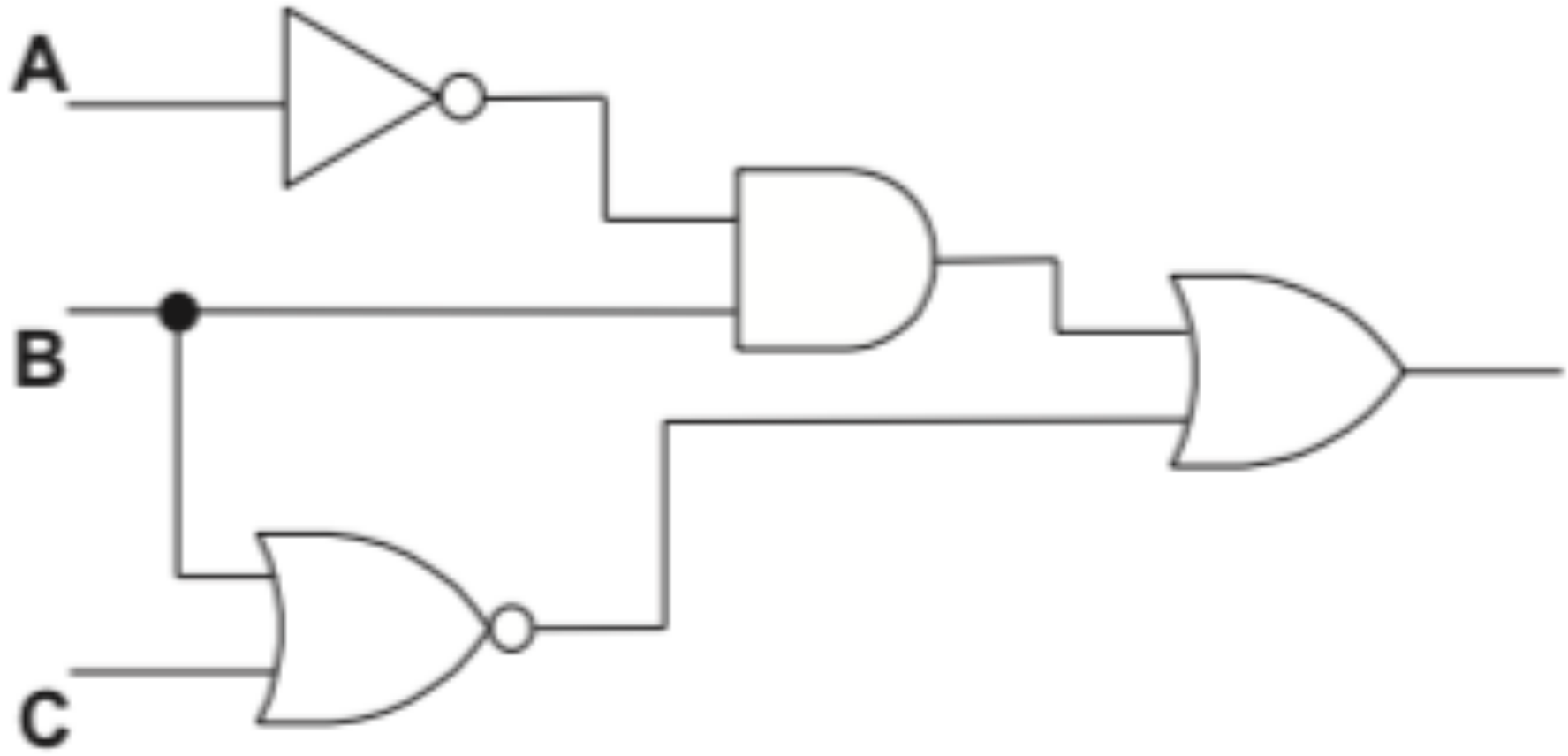
$A' \cdot B + (B + C)'$

$(A \cdot B)' + (C \cdot D)'$

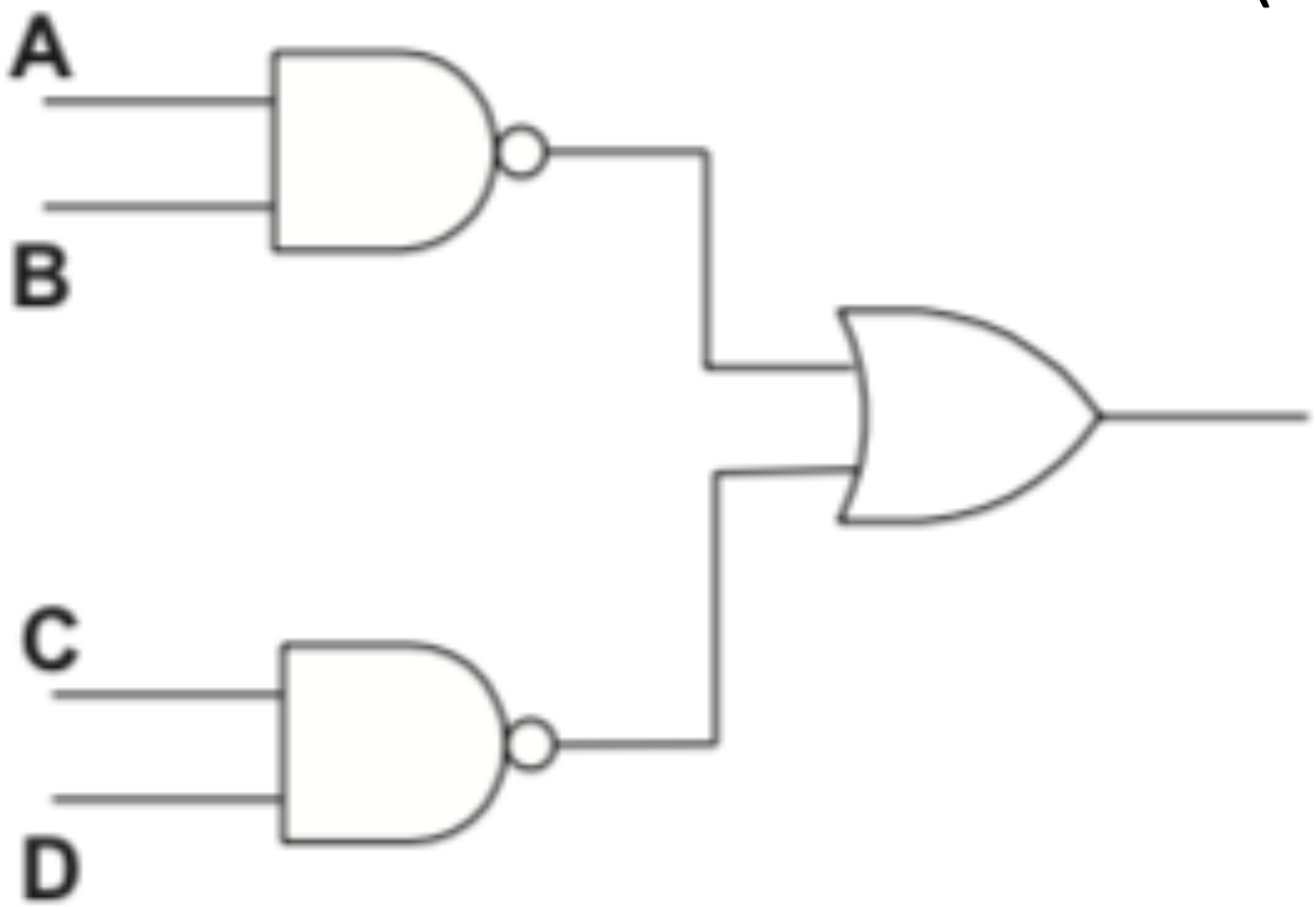
$$(A + B) \cdot (B + C)$$



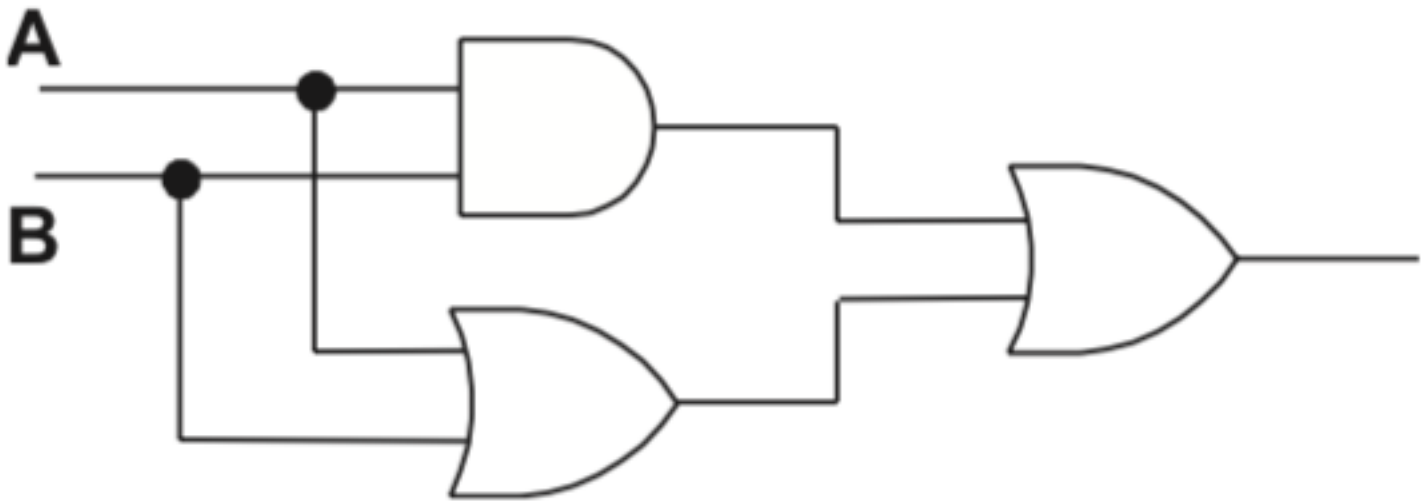
$A' \cdot B + (B + C)'$



$(A \cdot B)' + (C \cdot D)'$

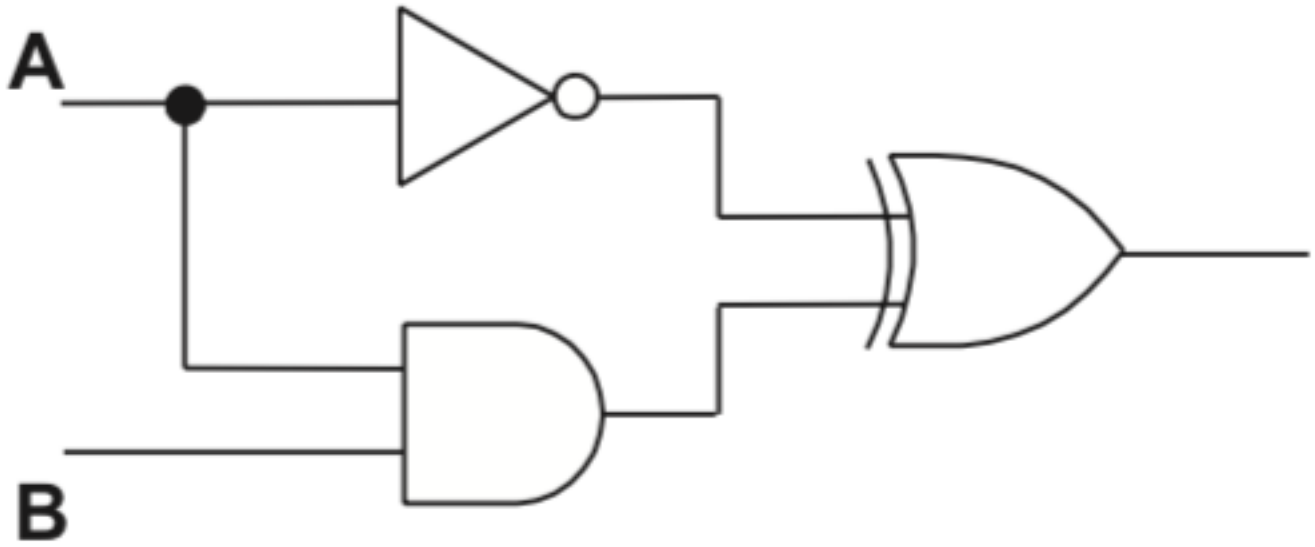


2. Write the Boolean expression and truth table for the circuit



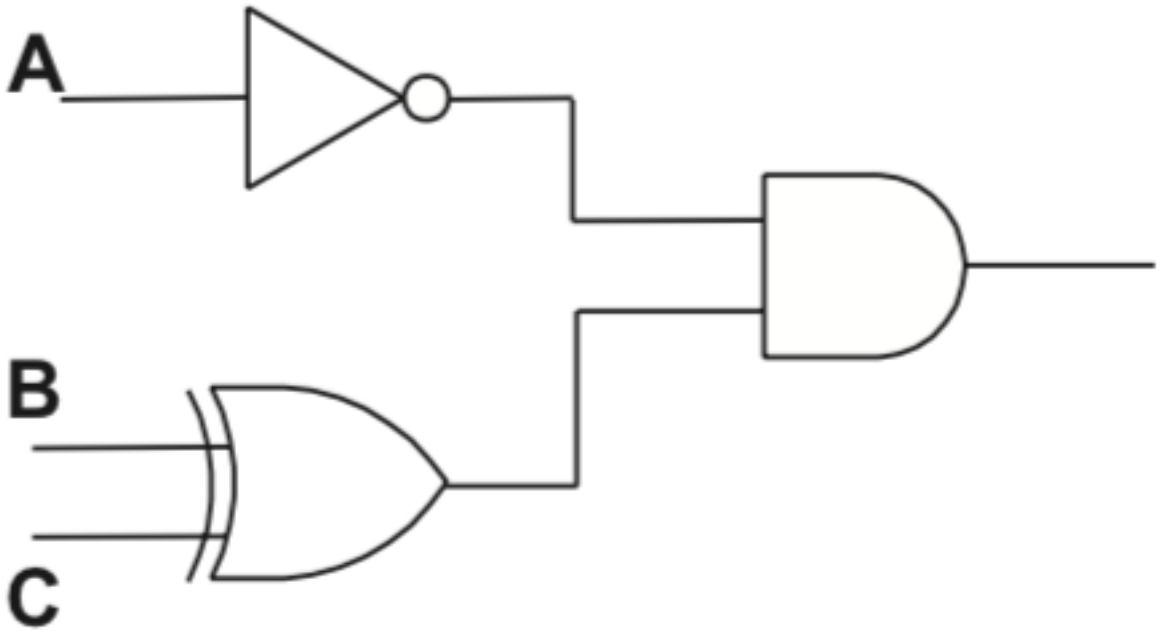
A	B	AB	A + B	AB + (A + B)
0	0	0	0	0
0	1	0	1	1
1	0	0	1	1
1	1	1	1	1

3. Write the Boolean expression and truth table for the circuit



A	B	A′	AB	A′ ⊕ (AB)
0	0	1	0	1
0	1	1	0	1
1	0	0	0	0
1	1	0	1	1

4. Write the Boolean expression and truth table for the circuit



A	B	C	A′	B ⊕ C	A′(B ⊕ C)
0	0	0	1	0	0
0	0	1	1	1	1
0	1	0	1	1	1
0	1	1	1	0	0
1	0	0	0	0	0
1	0	1	0	1	0
1	1	0	0	1	0
1	1	1	0	0	0