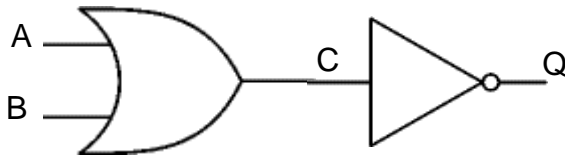


HW: Logic Gate Worksheet

1. A Logic circuit has two inputs being **X** and **Y** fill in all the possible combinations.

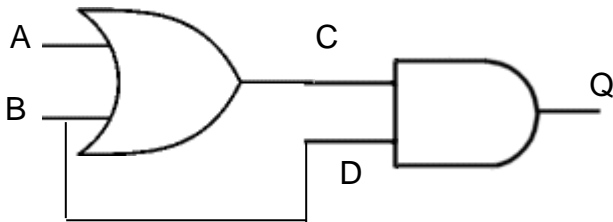
| X | Y |
|----------|----------|
| | |
| | |
| | |
| | |

2. The figure below shows a logic circuit and its incomplete truth table. Complete the below truth table.



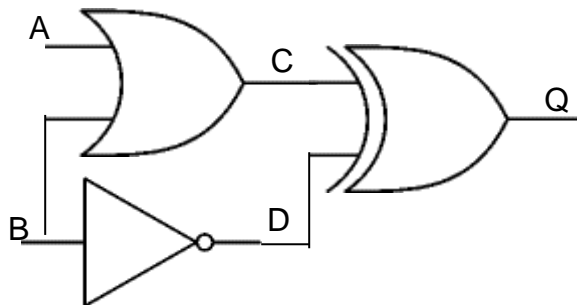
| A | B | C | Q |
|----------|----------|----------|----------|
| 0 | 0 | | |
| 0 | 1 | | |
| 1 | 0 | | |
| 1 | 1 | | |

3. The figure below shows a logic circuit and its incomplete truth table. Complete its truth table.



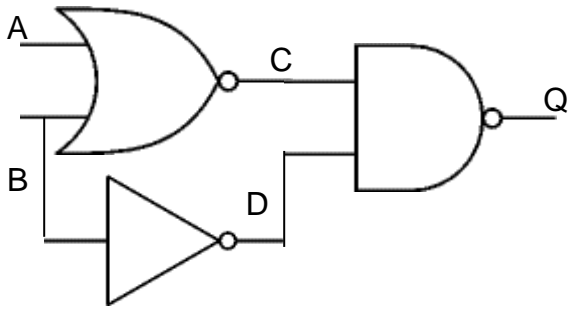
| A | B | C | D | Q |
|----------|----------|----------|----------|----------|
| 0 | 0 | | | |
| 0 | 1 | | | |
| 1 | 0 | | | |
| 1 | 1 | | | |

4. The figure below shows a logic circuit and its incomplete truth table. Complete the below truth table.



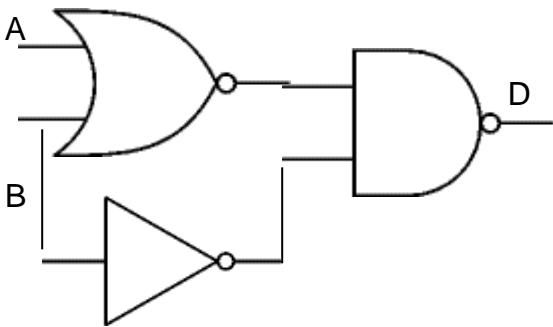
| A | B | C | D | Q |
|----------|----------|----------|----------|----------|
| 0 | | | | |
| 0 | | | | |
| 1 | | | | |
| 1 | | | | |

5. The figure below shows a logic circuit and its incomplete truth table. Complete the below truth table.



| A | B | C | D | Q |
|---|---|---|---|---|
| | 0 | | | |
| | 1 | | | |
| | 0 | | | |
| | 1 | | | |

6. For the logic circuit below complete the truth table.



| A | B | | | D |
|---|---|--|--|---|
| 0 | 0 | | | |
| 0 | 1 | | | |
| 1 | 0 | | | |
| 1 | 1 | | | |

Answers:

1.

| X | Y |
|----------|----------|
| 1 | 0 |
| 1 | 1 |
| 0 | 0 |
| 0 | 1 |

2

| A | B | C | Q |
|----------|----------|----------|----------|
| 0 | 0 | 0 | 1 |
| 0 | 1 | 1 | 0 |
| 1 | 0 | 1 | 0 |
| 1 | 1 | 1 | 0 |

3

| A | B | C | D | Q |
|----------|----------|----------|----------|----------|
| 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 1 | 1 | 1 |
| 1 | 0 | 1 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 |

4.

| A | B | C | D | Q |
|----------|----------|----------|----------|----------|
| 0 | 0 | 0 | 1 | 1 |
| 0 | 1 | 1 | 0 | 1 |
| 1 | 0 | 1 | 1 | 0 |
| 1 | 1 | 1 | 0 | 1 |

5

| A | B | C | D | Q |
|----------|----------|----------|----------|----------|
| 0 | 0 | 1 | 1 | 0 |
| 0 | 1 | 0 | 0 | 1 |
| 1 | 0 | 0 | 1 | 1 |
| 1 | 1 | 0 | 0 | 1 |

6.

| A | B | | | D |
|----------|----------|--|--|----------|
| 0 | 0 | | | 0 |
| 0 | 1 | | | 1 |
| 1 | 0 | | | 1 |
| 1 | 1 | | | 1 |

