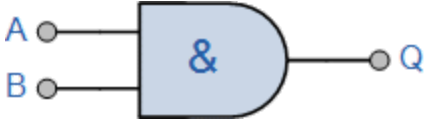


| | | | |
|---|---|--------------------------------|---|
| | | | |
|  <p>2-input AND Gate</p> | B | A | Q |
| | 0 | 0 | 0 |
| | 0 | 1 | 0 |
| | 1 | 0 | 0 |
| | 1 | 1 | 1 |
| Boolean Expression $Q = A.B$ | | Read as A AND B gives Q | |

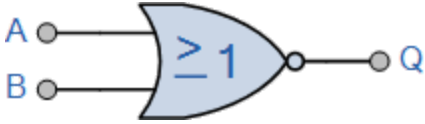
Both A and B have to be one for Q to be 1.

$$A*B=Q$$

| | | | |
|------------------------------|---|-------------------------------|---|
| | | | |
| 2-input OR Gate | B | A | Q |
| | 0 | 0 | 0 |
| | 0 | 1 | 1 |
| | 1 | 0 | 1 |
| | 1 | 1 | 1 |
| Boolean Expression $Q = A+B$ | | Read as A OR B gives Q | |

When A = 1 and B = 1 they enter the interim as a 1. Once they pass through the Inversion circle the number becomes 0.

$$\overline{A*B}=Q$$

| | | | |
|---|--|---|---|
| | | | |
|  <p>2-input NOR Gate</p> | B | A | Q |
| | 0 | 0 | 1 |
| | 0 | 1 | 0 |
| | 1 | 0 | 0 |
| | 1 | 1 | 0 |
| Boolean Expression $Q = A+B$ | Read as A OR B gives NOT Q | | |

When A = 1 and B = 0 enter the interim (where the shape connects to the circle) they are 0 , once they pass through the inversion circle the number changes to 1.

$\overline{A+B}=Q$