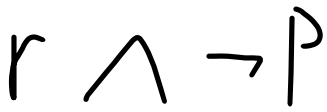
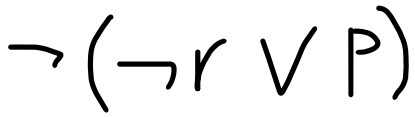
1

A I do not like ice cream more than maths

B

C





2

a

| P | Q | -p | -q | (¬p ∨ q) | (p ∧ ¬q) | (¬p ∨ q) ∨ (p ∧ ¬q) |
|---|---|---|---|---|---|---|
| 0 | 0 | 1 | 1 | 1 | 0 | 1 |
| 0 | 1 | 1 | 0 | 1 | 0 | 1 |
| 1 | 0 | 0 | 1 | 0 | 1 | 1 |
| 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| | | | | | | |

B

| P | Q | -p | -q | (¬p ∧ q) | ¬(¬p ∧ q) | p ∨ ¬q |
|---|---|---|---|---|---|---|
| 0 | 0 | 1 | 1 | 0 | 1 | 1 |
| 0 | 1 | 1 | 0 | 1 | 0 | 0 |
| 1 | 0 | 0 | 1 | 0 | 1 | 1 |
| 1 | 1 | 0 | 0 | 0 | 1 | 1 |

3

Distributive law

Contradiction

Contradiction

De morgans law