Leyes asociativas

1. (x + y) + z = x + (y + z)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **p** | **q** | **r** | **(p ⋁ q) ⋁ r** | **p ⋁ (q ⋁ r)** |
| V | V | V | V | V |
| V | V | F | V | V |
| V | F | V | V | V |
| V | F | F | V | V |
| F | V | V | V | V |
| F | V | F | V | V |
| F | F | V | V | V |
| F | F | F | F | F |

2. (x · y) · z = x · (y · z)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **p** | **q** | **r** | **(p ⋀ q) ⋀ r** | **p ⋀ (q ⋀ r)** |
| V | V | V | V | V |
| V | V | F | F | F |
| V | F | V | F | F |
| V | F | F | F | F |
| F | V | V | F | F |
| F | V | F | F | F |
| F | F | V | F | F |
| F | F | F | F | F |

Leyes conmutativas

1. x + y = y + x

|  |  |  |  |
| --- | --- | --- | --- |
| **p** | **q** | **p ⋁ q** | **q ⋁ p** |
| V | V | V | V |
| V | F | V | V |
| F | F | F | F |
| F | V | V | V |

2. x · y = y · x

|  |  |  |  |
| --- | --- | --- | --- |
| **p** | **q** | **p ⋀ q** | **q ⋀ p** |
| V | V | V | V |
| V | F | F | F |
| F | F | F | F |
| F | V | F | F |

Leyes distributivas

1. x · (y + z) = (x · y) + (x · z)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **p** | **q** | **r** | **p ⋀ (q ⋁ r)** | **(p ⋀ q) ⋁ (p ⋀ r)** |
| V | V | V | V | V |
| V | V | F | V | V |
| V | F | V | V | V |
| V | F | F | F | F |
| F | V | V | F | F |
| F | V | F | F | F |
| F | F | V | F | F |
| F | F | F | F | F |

2. x + (y · z) = (x + y) · (x + z)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **p** | **q** | **r** | **p ⋁ (q ⋀ r)** | **(p ⋁ q) ⋀ (p ⋁ r)** |
| V | V | V | V | V |
| V | V | F | V | V |
| V | F | V | V | V |
| V | F | F | V | V |
| F | V | V | V | V |
| F | V | F | F | F |
| F | F | V | F | F |
| F | F | F | F | F |

Leyes de identidad

1. x + 0 = x

|  |  |
| --- | --- |
| **p** | **p ⋁ false** |
| V | V |
| F | F |

2. x · 1 = x

|  |  |
| --- | --- |
| **p** | **p ⋀ true** |
| V | V |
| F | F |

Leyes de complementos

1. x + x’=1

|  |  |
| --- | --- |
| **p** | **p ⋁ p’** |
| V | v |
| F | V |

2. x · x’=0

|  |  |
| --- | --- |
| **p** | **p ⋀ p’** |
| V | F |
| F | F |