**Logic Tool Results**

Logical Expression: (p∧q)∨r⊢(p∨r)∧(q∨r)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Line | Expression | Rule | First Segment | Second Segment | Third Segment |
| 1 | (p∧q)∨r | Data |  |  |  |
| ┌--------------------------------------------------------------------------------------------------------------┐ | | | | | |
| 2 | p∧q | Assumption |  |  |  |
| 3 | p | ∧e1 | 2 |  |  |
| 4 | p∨r | ∨i1 | 3 |  |  |
| 5 | q | ∧e2 | 2 |  |  |
| 6 | q∨r | ∨i1 | 5 |  |  |
| 7 | (p∨r)∧(q∨r) | ∧i | 4 | 6 |  |
| └--------------------------------------------------------------------------------------------------------------┘ | | | | | |
| ┌--------------------------------------------------------------------------------------------------------------┐ | | | | | |
| 8 | r | Assumption |  |  |  |
| 9 | p∨r | ∨i2 | 8 |  |  |
| 10 | q∨r | ∨i2 | 8 |  |  |
| 11 | (p∨r)∧(q∨r) | ∧i | 9 | 10 |  |
| └--------------------------------------------------------------------------------------------------------------┘ | | | | | |
| 12 | (p∨r)∧(q∨r) | ∨e | 1 | 2-7 | 8-11 |