**Logic Tool Results**

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

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