Main Expression: (p∨q)∨r⊢p∨(q∨r)

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