***LOGICA 2018/19 - Test n. 4***

***( Deduzioni naturali guidate)***

Cognome e Nome \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Matricola \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Corso di Studi \_\_\_\_\_\_\_\_\_\_\_\_\_ indirizzo)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ─ ( ─ p ꓥ ─q )  **Ⱶ**  p ꓦ q | | | | | | |
|  |  |  |  |  |  |  |
| 1 |  | (1) | *─ ( ─ p ꓥ ─ q )* |  |  |  |
|  |  | (2) | *─ ( p ꓦ q )* |  | **A\*** |  |
| 3 |  | (3) |  |  | **A\*** |  |
| 3 |  | (4) |  |  | **Iꓦ** |  |
| 2,3 |  | (5) | *( p ꓦ q ) ꓥ ─ ( p ꓦ q )* |  |  |  |
|  |  | (6) |  |  | **RA** | 3,5 |
| 7 |  | (7) |  |  | **A\*** |  |
|  |  | (8) | *p ꓦ q* |  |  | 7 |
|  |  | (9) | *( p ꓦ q ) ꓥ ─ ( p ꓦ q )* |  | **Iꓥ** |  |
|  |  | (10) | *─ q* |  |  | 7,9 |
|  |  | (11) |  |  | **Iꓥ** | 6,10 |
|  |  | (12) | *( ─ p ꓥ ─ q ) ꓥ ─ ( ─ p ꓥ ─ q )* |  | **Iꓥ** |  |
| 1 |  | (13) |  |  |  | 2,12 |
|  |  | (14) | *p ꓦ q* |  |  | 13 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ( ─ p → s ) ꓦ ( ─ p → q ), ─ ( q ꓦ ─ r )  **Ⱶ**  ─ s → ( p ꓥ ─ ( q ꓦ ─ r )) | | | | | | |
|  |  |  |  |  |  |  |
|  |  | (1) | *( ─ p → s ) ꓦ ( ─ p → q )* |  | **A** |  |
|  |  | (2) | *─ ( q ꓦ ─ r )* |  | **A** |  |
|  |  | (3) | *─ s* |  | **A\*** |  |
|  |  | (4) |  |  | **A\*** |  |
|  |  | (5) |  |  | **MTT** |  |
|  |  | (6) |  |  | **A\*** |  |
|  |  | (7) |  |  | **A\*** |  |
|  |  | (8) | *q* |  | **MPP** |  |
|  |  | (9) |  |  | **Iꓦ** |  |
|  |  | (10) |  |  | **Iꓥ** |  |
|  |  | (11) |  |  | **RA** |  |
|  |  | (12) |  |  | **Eꓦ** |  |
|  |  | (13) |  |  | **DN** |  |
|  |  | (14) |  |  | **Iꓥ** |  |
| 1,2 |  | (15) | *─ s → ( p ꓥ ─ ( q ꓦ ─ r ))* |  | **PC** |  |