P = T

Q = F

P||Q = T

!Q = T

3 ^ 4 = T

5 🡪 P = T

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| P | Q | !Q🡪P | !Q||P | !P🡪Q | Q||P | Q||!P |
| T | T | T | T | T | T | T |
| F | F | F | T | F | F | T |
| T | F | T | T | T | T | F |
| F | T | T | F | T | T | T |

ABOVE, the columns with green indicate that the associated statements are logically equivalent.

|  |  |  |  |
| --- | --- | --- | --- |
| Q | R | Q||R | !Q||!R |
| T | T | T | F |
| F | F | F | T |
| T | F | T | T |
| F | T | T | T |

P(X|Y) = P(Y|X) \* P(X) / P(Y) 🡪 P(X|Y) \* P(Y) = P(Y|X) \* P(X) = P(X, Y).