1. For the following construct a Boolean function equal to the function S defined by the given truth table. Make your function as simple as you can.

|  |  |  |  |
| --- | --- | --- | --- |
| P | Q | R | S = f(P, Q, R) |
| T | T | T | T |
| T | T | F | T |
| T | F | T | T |
| T | F | F | F |
| F | T | T | F |
| F | T | F | T |
| F | F | T | F |
| F | F | F | F |

1. Create the truth table for the following statement:

|  |  |  |  |
| --- | --- | --- | --- |
| p | q | r |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

1. Prove (or disprove) the following:

is logically equivalent to