Question 1:

E3 = c14 || c16

E3 = (c12 && c5) || (c3 && c7)

E4 = c2 && c7

E5 = c6 && c3

Question 2:

(c2 && c5 && c6) || (c3 && c8)

Table:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| c1 | - | - | - | - | F | F | F | F | - | - | F | F |
| c2 | F | F | F | F | T | T | T | T | - | - | F | F |
| c3 | - | - | - | - | F | F | F | F | F | F | T | T |
| c4 | - | - | - | - | F | F | F | F | - | - | F | F |
| c5 | F | F | T | T | F | F | T | T | - | - | - | - |
| c6 | F | T | F | T | F | T | F | T | - | F | - | F |
| c7 | - | F | - | F | - | F | - | F | - | F | - | F |
| c8 | - | F | - | F | - | F | - | F | F | T | F | T |
| c9 | - | F | - | F | - | F | - | F | - | F | - | F |
| E2 |  |  |  |  |  |  |  | X |  |  |  | X |