Sederhanakan f (x1, x2) = Σm(0, 3)

|  |  |  |
| --- | --- | --- |
| INPUT | | OUTPUT |
|  |  | Y |
| 0 | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

Sederhanakan f(x1, x2) = Σm(1, 2)

|  |  |  |
| --- | --- | --- |
| INPUT | | OUTPUT |
|  |  | Y |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

Sederhanakan f (x1, x2, x3) = Σm(0, 1, 2, 5)

|  |  |  |  |
| --- | --- | --- | --- |
| INPUT | | | OUTPUT |
|  |  |  | Y |
| 0 | 0 | 0 | 1 |
| 0 | 0 | 1 | 1 |
| 0 | 1 | 0 | 1 |
| 0 | 1 | 1 | 0 |
| 1 | 0 | 0 | 0 |
| 1 | 0 | 1 | 1 |
| 1 | 1 | 0 | 0 |
| 1 | 1 | 1 | 0 |

x1’x2’x3’+x1’x2’x3+x1’x2x3’+x1x2’x3

=x1’x2’(x3+x3’)+ x1’x2x3’+x1x2’x3// hukum distributif

=x1’x2’(1) + x1’x2x3’+x1x2’x3// hukum complement

=x1’x2’+ x1’x2x3’+x1x2’x3// hukum identitas

=x1’(x2’+x2x3’) +x1x2’x3 //hukum distributif

=x1’(x2’+x3’)+x1x2’x3 //hukum absorpsi

= x1’x3’+ x1’x2’+x1x2’x3 // hukum distributive

=x1’x3’+x2’(x1’+x1x3) // hukum distributive

= x1’x3’+x2’(x1’+x3) //hukum absorpsi

=x1’x3’+x1’x2’+x2’x3 //hukum distributif

=x1’x3’+x2’x3+x1’x2’ //hukum komutatif

=x1’x3’+x2’x3+x1’x2(x3+x3’) //hukum identitas dan komplemen

=x1’x3’+x1’x2x3’+x2’x3+x1’x2x3 // hukum distributive dan komutatif

=x1’x3’+x2’x3(1+x1’) // hukum distributif

=x1’x3’+x2’x3 //hukum absorpsi

Sederhanakan f(x1,x2,x3,x4)=

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| X1x2\x3x4 | 00 | 01 | 11 | 10 |
| 00 | 1 | 0 | 1 | 0 |
| 01 | 1 | 0 | 0 | 0 |
| 11 | 1 | 1 | 1 | 1 |
| 10 | 1 | 0 | 1 | 0 |

f(x1,x2,x3,x4)=(x1’+x2’+x3’+x4)(x1’+x2’+x3+x4’)(x1’+x2+x3’+x4)(x1’+x2+x3+x4)(x1’+x2+x3+x4’)(x1+x2’+x3’+x4)(x1+x2’+x3+x4’)