**Задача 5.** Найти все тупиковые и все минимальные ДНФ и КНФ

**5.27** 1101101011010010

|  |  |  |  |
| --- | --- | --- | --- |
| xyzw | n | f | -f |
| 0000 | 0 | 1 | 0 |
| 0001 | 1 | 1 | 0 |
| 0010 | 2 | 0 | 1 |
| 0011 | 3 | 1 | 0 |
| 0100 | 4 | 1 | 0 |
| 0101 | 5 | 0 | 1 |
| 0110 | 6 | 1 | 0 |
| 0111 | 7 | 0 | 1 |
| 1000 | 8 | 1 | 0 |
| 1001 | 9 | 1 | 0 |
| 1010 | 10 | 0 | 1 |
| 1011 | 11 | 1 | 0 |
| 1100 | 12 | 0 | 1 |
| 1101 | 13 | 0 | 1 |
| 1110 | 14 | 1 | 0 |
| 1111 | 15 | 0 | 1 |

1. СДНФ. f(x,y,z,w) = -x-y-z-w, -x-y-zw, -x-yzw, -xy-z-w, -xyz-w, x-yzw, xyz-w
2. Сокращенная ДНФ строится по СКНФ f(x,y,z,w) = (x V y V –z V w) (x V –y V z V –w) (x V –y V –z V –w) (-x V y V –z V w) (-x V –y V z V w) (-x V –y V z V –w) ( -x V –y V -z V –w) =

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| N | ПИ | -x-y-z-w |  |  |  |  |
| **1** | **w –x -y** |  |  |  |  |  |
| **2** | **w –x -z** |  |  |  |  |  |
| **3** | **w –y z** |  |  |  |  |  |
| **4** | **-w y z** |  |  |  |  |  |