www.32x8.com

## **SUM of PRODUCTS**

## Map

	$\overline{D}.\overline{E}.\overline{F}$	$\overline{D}.\overline{E}.F$	$\overline{\mathrm{D}}.\mathrm{E.F}$	$\overline{\mathrm{D}}.\mathrm{E}.\overline{\mathrm{F}}$	$D.\overline{E}.\overline{F}$	$D.\overline{E}.F$	D.E.F	$D.E.\overline{F}$
$\overline{A}.\overline{B}.\overline{C}$	0	0	0	0	0	0	0	0
$\overline{A}.\overline{B}.C$	0	0	0	0	0	0	0	0
$\overline{A}$ .B.C	0	0	0	0	0	0	0	0
$\overline{A}.B.\overline{C}$	0	0	0	0	0	0	0	0
A.B.C	0	0	0	0	0	1	0	1
$A.\overline{B}.C$	0	0	1	1	0	0	0	0
A.B.C	0	0	0	0	0	0	0	0
$A.B.\overline{C}$	0	0	0	0	0	0	0	0

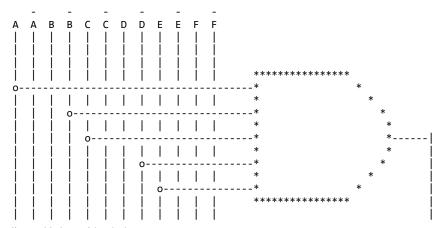
## **Map Layout**

	$\overline{D}.\overline{E}.\overline{F}$	$\overline{D}.\overline{E}.F$	$\overline{\mathrm{D}}.\mathrm{E.F}$	$\overline{D}$ .E. $\overline{F}$	$D.\overline{E}.\overline{F}$	$D.\overline{E}.F$	D.E.F	$D.E.\overline{\overline{F}}$
$\overline{A}.\overline{B}.\overline{C}$	0	1	3	2	4	5	7	6
$\overline{A}.\overline{B}.C$	8	9	11	10	12	13	15	14
$\overline{A}$ .B.C	24	25	27	26	28	29	31	30
$\overline{A}.B.\overline{C}$	16	17	19	18	20	21	23	22
A.B.C	32	33	35	34	36	37	39	38
$A.\overline{B}.C$	40	41	43	42	44	45	47	46
A.B.C	56	57	59	58	60	61	63	62
$A.B.\overline{C}$	48	49	51	50	52	53	55	54

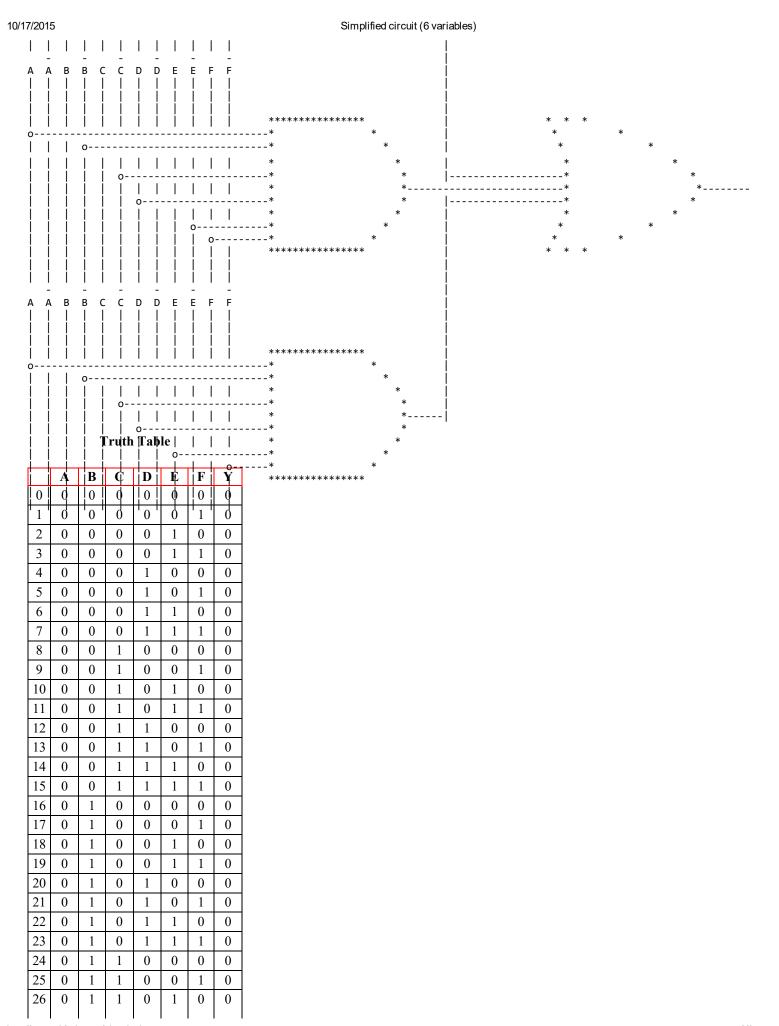
## Groups

(42,43)	$A.\overline{B}.C.\overline{D}.E$
(37)	$A.\overline{B}.\overline{C}.D.\overline{E}.F$
(38)	$A.\overline{B}.\overline{C}.D.E.\overline{F}$

$$y = A.\overline{B}.C.\overline{D}.E + A.\overline{B}.\overline{C}.D.\overline{E}.F + A.\overline{B}.\overline{C}.D.E.\overline{F}$$



http://www.32x8.com/circuits6



http://www.32x8.com/circuits6

27     0     1     1     0     1     1     0       28     0     1     1     1     0     0     0       29     0     1     1     1     0     0     0       30     0     1     1     1     1     0     0       31     0     1     1     1     1     1     0       32     1     0     0     0     0     0     0       34     1     0     0     0     1     0     0       35     1     0     0     0     1     0     0       36     1     0     0     1     0     0     0       37     1     0     0     1     1     0     0       37     1     0     0     1     1     1     0       37     1     0     0     1     1     1     <								
29     0     1     1     1     0     1     0	27	0	1	1	0	1	1	0
30     0     1     1     1     1     0     0       31     0     1     1     1     1     1     0     0       32     1     0     0     0     0     0     0     0       34     1     0     0     0     1     0     0       35     1     0     0     0     1     1     0       36     1     0     0     1     0     0     0       37     1     0     0     1     1     0     1       38     1     0     0     1     1     0     1       40     1     0     1     0     1     0     1       40     1     0     1     0     0     0     0       41     1     0     1     0     1     0     1       42     1     0     1     0     <	28	0	1	1	1	0	0	0
31     0     1     1     1     1     1     0	29	0	1	1	1	0	1	0
32     1     0     0     0     0     0       33     1     0     0     0     0     1     0       34     1     0     0     0     1     0     0       35     1     0     0     1     0     0     0       36     1     0     0     1     0     0     0       37     1     0     0     1     0     0     0       39     1     0     0     1     1     0     1       40     1     0     1     0     1     0     1       40     1     0     1     0     0     0     0       41     1     0     1     0     1     0     1       42     1     0     1     0     1     0     1       42     1     0     1     0     1     0     0	30	0	1	1	1	1	0	0
33     1     0     0     0     0     1     0       34     1     0     0     0     1     0     0       35     1     0     0     0     1     1     0       36     1     0     0     1     0     0     0       37     1     0     0     1     0     1     1       38     1     0     0     1     1     0     1       40     1     0     1     0     1     0     1       40     1     0     1     0     0     0     0       41     1     0     1     0     0     0     0       42     1     0     1     0     1     0     1       43     1     0     1     0     1     1     0       45     1     0     1     1     0     0     <	31	0	1	1	1	1	1	0
34     1     0     0     0     1     0     0       35     1     0     0     0     1     1     0       36     1     0     0     1     0     0     0       37     1     0     0     1     0     1     1       38     1     0     0     1     1     0     1       39     1     0     0     1     1     0     1       40     1     0     1     0     0     0     0       41     1     0     1     0     0     0     0       41     1     0     1     0     1     0     1       42     1     0     1     0     1     0     1       43     1     0     1     0     1     1     1       44     1     0     1     1     0     1     <	32	1	0	0	0	0	0	0
35     1     0     0     0     1     1     0       36     1     0     0     1     0     0     0       37     1     0     0     1     0     1     1       38     1     0     0     1     1     0     1       39     1     0     0     1     1     1     0       40     1     0     1     0     0     0     0       41     1     0     1     0     0     0     0       41     1     0     1     0     1     0     1       42     1     0     1     0     1     0     1       43     1     0     1     0     1     1     1       44     1     0     1     1     0     1     0       45     1     0     1     1     0     0     <	33	1	0	0	0	0	1	0
36     1     0     0     1     0     0     0       37     1     0     0     1     0     1     1       38     1     0     0     1     1     0     1       39     1     0     0     1     1     0     1       40     1     0     1     0     0     0     0       41     1     0     1     0     0     0     0       42     1     0     1     0     1     0     1       42     1     0     1     0     1     0     1       43     1     0     1     0     1     1     1       44     1     0     1     1     0     0     0       45     1     0     1     1     0     0     0       47     1     0     1     1     1     0     <	34	1	0	0	0	1	0	0
37     1     0     0     1     0     1     1       38     1     0     0     1     1     0     1       39     1     0     0     1     1     1     0       40     1     0     1     0     0     0     0       41     1     0     1     0     0     0     0       41     1     0     1     0     1     0     1     0       42     1     0     1     0     1     0     1     0     1     0     1     4     1     0     1     1     0     1     1     1     1     0<	35	1	0	0	0	1	1	0
38     1     0     0     1     1     0     1       39     1     0     0     1     1     1     0       40     1     0     1     0     0     0     0       41     1     0     1     0     0     1     0       42     1     0     1     0     1     0     1       43     1     0     1     0     1     1     1       44     1     0     1     1     0     0     0       45     1     0     1     1     0     0     0       45     1     0     1     1     0     0     0       46     1     0     1     1     1     0     0       47     1     0     1     1     0     0     0       48     1     1     0     0     0     0     <	36	1	0	0	1	0	0	0
39     1     0     0     1     1     1     0       40     1     0     1     0     0     0     0       41     1     0     1     0     0     1     0       42     1     0     1     0     1     0     1       43     1     0     1     0     1     1     1       44     1     0     1     1     0     0     0       45     1     0     1     1     0     1     0       46     1     0     1     1     1     0     0       47     1     0     1     1     1     0     0       48     1     1     0     0     0     0     0       50     1     1     0     0     1     0     0       51     1     1     0     1     0     0     <	37	1	0	0	1	0	1	1
40     1     0     1     0     0     0       41     1     0     1     0     0     1     0       42     1     0     1     0     1     0     1     0     1       43     1     0     1     0     1     0 <td>38</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>1</td>	38	1	0	0	1	1	0	1
41     1     0     1     0     0     1     0       42     1     0     1     0     1     0     1       43     1     0     1     0     1     1     1       44     1     0     1     1     0     0     0       45     1     0     1     1     0     1     0       46     1     0     1     1     1     0     0       47     1     0     1     1     1     0     0       48     1     1     0     0     0     0     0       49     1     1     0     0     0     0     0       50     1     1     0     0     1     0     0       51     1     1     0     1     0     0     0       52     1     1     0     1     0     0     <	39	1	0	0	1	1	1	0
42     1     0     1     0     1     0     1       43     1     0     1     0     1     1     1       44     1     0     1     1     0     0     0       45     1     0     1     1     0     1     0       46     1     0     1     1     1     0     0       47     1     0     1     1     1     1     0       48     1     1     0     0     0     0     0       49     1     1     0     0     0     0     0       50     1     1     0     0     1     0     0       51     1     1     0     0     1     0     0       51     1     1     0     1     0     0     0       53     1     1     0     1     0     0     <	40	1	0	1	0	0	0	0
43     1     0     1     0     1     0	41	1	0	1	0	0	1	0
44     1     0     1     1     0     0     0       45     1     0     1     1     0     1     0       46     1     0     1     1     1     0     0       47     1     0     1     1     1     1     0       48     1     1     0     0     0     0     0       49     1     1     0     0     0     1     0       50     1     1     0     0     1     0     0       51     1     1     0     0     1     1     0       51     1     1     0     1     0     0     0       52     1     1     0     1     0     0     0       53     1     1     0     1     0     0     0       55     1     1     0     1     1     1     <	42	1	0	1	0	1	0	1
45     1     0     1     1     0     1     0       46     1     0     1     1     1     0     0       47     1     0     1     1     1     1     0     0       48     1     1     0     0     0     0     0     0       49     1     1     0     0     0     1     0 <td>43</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td>	43	1	0	1	0	1	1	1
46     1     0     1     1     1     0     0       47     1     0     1     1     1     1     0     0       48     1     1     0     0     0     0     0     0       49     1     1     0     0     0     1     0     0       50     1     1     0     0     1     0 <td>44</td> <td>1</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>0</td>	44	1	0	1	1	0	0	0
47     1     0     1     1     1     1     0	45	1	0	1	1	0	1	0
48     1     1     0     0     0     0     0       49     1     1     0     0     0     1     0       50     1     1     0     0     1     0     0       51     1     1     0     0     1     1     0       52     1     1     0     1     0     0     0       53     1     1     0     1     0     1     0       54     1     1     0     1     1     0     0       55     1     1     0     1     1     1     0     0       55     1     1     0     1     1     1     0     0     0     0       57     1     1     1     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0     0 <td< td=""><td>46</td><td>1</td><td>0</td><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td></td<>	46	1	0	1	1	1	0	0
49     1     1     0     0     0     1     0       50     1     1     0     0     1     0     0       51     1     1     0     0     1     1     0       52     1     1     0     1     0     0     0       53     1     1     0     1     0     1     0       54     1     1     0     1     1     0     0       55     1     1     0     1     1     1     0       56     1     1     1     0     0     0     0       57     1     1     1     0     0     1     0       58     1     1     1     0     1     0     0       59     1     1     1     0     0     0     0       60     1     1     1     1     0     0     <	47	1	0	1	1	1	1	0
50     1     1     0     0     1     0     0       51     1     1     0     0     1     1     0       52     1     1     0     1     0     0     0       53     1     1     0     1     0     1     0       54     1     1     0     1     1     0     0       55     1     1     0     1     1     1     0       56     1     1     1     0     0     0     0       57     1     1     1     0     0     1     0       58     1     1     1     0     1     0     0       59     1     1     1     0     1     1     0       60     1     1     1     1     0     0     0       61     1     1     1     1     0     0     <	48	1	1	0	0	0	0	0
51     1     1     0     0     1     1     0       52     1     1     0     1     0     0     0       53     1     1     0     1     0     1     0       54     1     1     0     1     1     0     0       55     1     1     0     1     1     1     0       56     1     1     1     0     0     0     0       57     1     1     1     0     0     1     0       58     1     1     1     0     1     0     0       59     1     1     1     0     1     1     0       60     1     1     1     1     0     0     0       61     1     1     1     1     0     0     0       62     1     1     1     1     1     1     <	49	1	1	0	0	0	1	0
52     1     1     0     1     0     0     0       53     1     1     0     1     0     1     0       54     1     1     0     1     1     0     0       55     1     1     0     1     1     1     0       56     1     1     1     0     0     0     0       57     1     1     1     0     0     1     0       58     1     1     1     0     1     0     0       59     1     1     1     0     1     1     0       60     1     1     1     1     0     0     0       61     1     1     1     1     0     1     0       62     1     1     1     1     1     0     0	50	1	1	0	0	1	0	0
53     1     1     0     1     0     1     0       54     1     1     0     1     1     0     0       55     1     1     0     1     1     1     0       56     1     1     1     0     0     0     0       57     1     1     1     0     0     1     0       58     1     1     1     0     1     0     0       59     1     1     1     0     1     1     0       60     1     1     1     1     0     0     0       61     1     1     1     1     0     1     0       62     1     1     1     1     1     0     0	51	1	1	0	0	1	1	0
54     1     1     0     1     1     0     0       55     1     1     0     1     1     1     0       56     1     1     1     0     0     0     0       57     1     1     1     0     0     1     0       58     1     1     1     0     1     0     0       59     1     1     1     0     1     1     0       60     1     1     1     1     0     0     0       61     1     1     1     1     0     1     0       62     1     1     1     1     1     0     0	52	1	1	0	1	0	0	0
55     1     1     0     1     1     1     0       56     1     1     1     0     0     0     0       57     1     1     1     0     0     1     0       58     1     1     1     0     1     0     0       59     1     1     1     0     1     1     0       60     1     1     1     1     0     0     0       61     1     1     1     1     0     1     0       62     1     1     1     1     1     0     0	53	1	1	0	1	0	1	0
56 1 1 1 0 0 0 0   57 1 1 1 0 0 1 0   58 1 1 1 0 1 0 0   59 1 1 1 0 1 1 0   60 1 1 1 1 0 0 0   61 1 1 1 1 0 1 0   62 1 1 1 1 1 0 0	54	1	1	0	1	1	0	0
57     1     1     1     0     0     1     0       58     1     1     1     0     1     0     0       59     1     1     1     0     1     1     0       60     1     1     1     1     0     0     0       61     1     1     1     1     0     1     0       62     1     1     1     1     1     0     0	55	1	1	0	1	1	1	0
58 1 1 1 0 1 0 0   59 1 1 1 0 1 1 0   60 1 1 1 1 0 0 0   61 1 1 1 1 0 1 0   62 1 1 1 1 1 0 0	56	1	1	1	0	0	0	0
59     1     1     1     0     1     1     0       60     1     1     1     1     0     0     0       61     1     1     1     1     0     1     0       62     1     1     1     1     1     0     0	57	1	1	1	0	0	1	0
60 1 1 1 1 0 0 0   61 1 1 1 1 0 1 0   62 1 1 1 1 1 0 0	58	1	1	1	0	1	0	0
61     1     1     1     1     0     1     0       62     1     1     1     1     1     0     0	59	1	1	1	0	1	1	0
62 1 1 1 1 1 0 0	60	1	1	1	1	0	0	0
	61	1	1	1	1	0	1	0
	62	1	1	1	1	1	0	0
63 1 1 1 1 1 1 0	63	1	1	1	1	1	1	0

© 2014-2015

http://www.32x8.com/circuits6