

SUM of PRODUCTS**Map**

| | $\overline{D}.\overline{E}$ | $\overline{D}.E$ | $D.E$ | $D.\overline{E}$ |
|--|-----------------------------|------------------|-------|------------------|
| $\overline{A}.\overline{B}.\overline{C}$ | 1 | 1 | 0 | 1 |
| $\overline{A}.\overline{B}.C$ | 0 | 0 | 0 | 0 |
| $\overline{A}.B.C$ | 0 | 0 | x | x |
| $\overline{A}.B.\overline{C}$ | 0 | 1 | x | x |
| $A.\overline{B}.\overline{C}$ | 0 | 0 | 1 | 0 |
| $A.\overline{B}.C$ | x | x | x | x |
| $A.B.C$ | x | x | x | x |
| $A.B.\overline{C}$ | 1 | 0 | x | x |

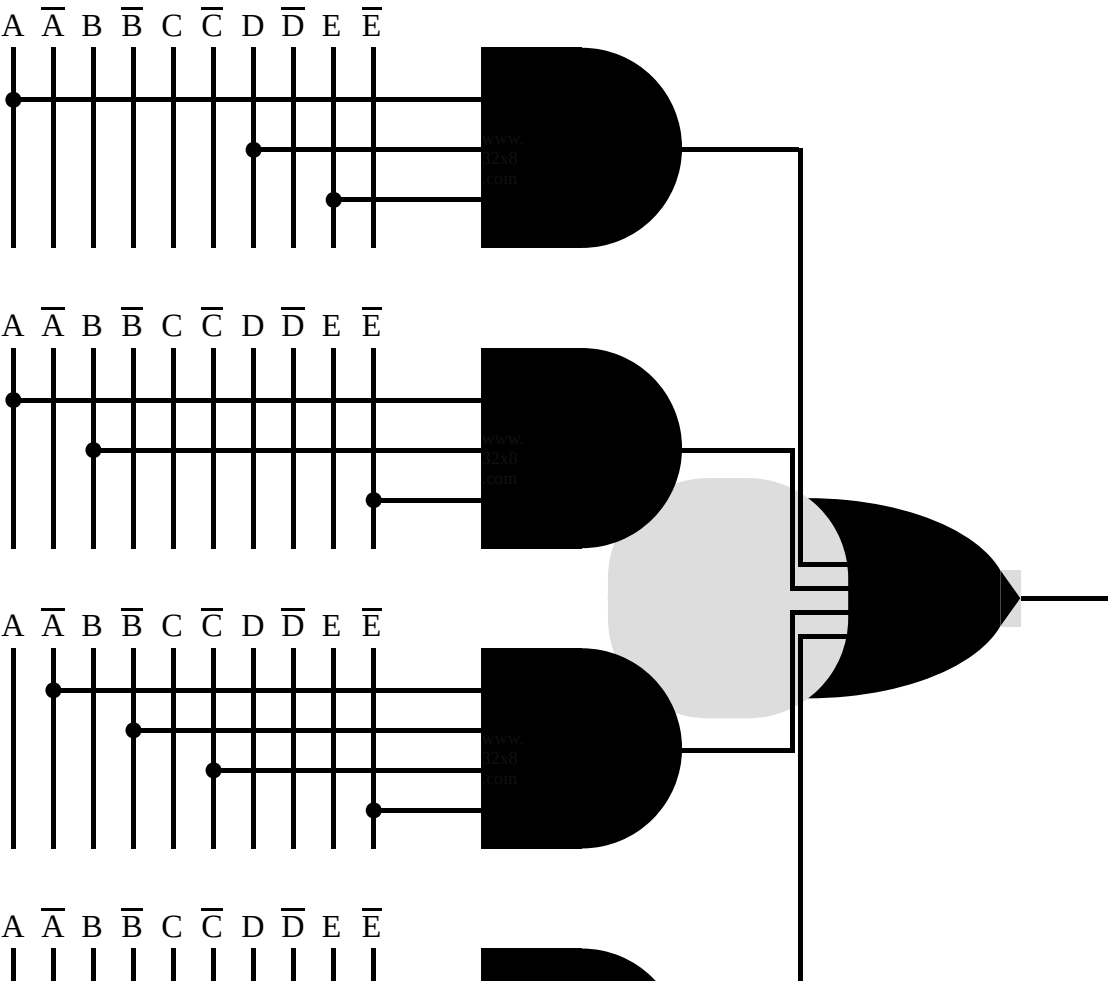
Map Layout

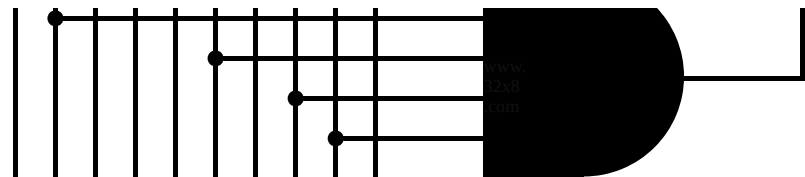
| | $\overline{D}.\overline{E}$ | $\overline{D}.E$ | $D.E$ | $D.\overline{E}$ |
|--|-----------------------------|------------------|-------|------------------|
| $\overline{A}.\overline{B}.\overline{C}$ | 0 | 1 | 3 | 2 |
| $\overline{A}.\overline{B}.C$ | 4 | 5 | 7 | 6 |
| $\overline{A}.B.C$ | 12 | 13 | 15 | 14 |
| $\overline{A}.B.\overline{C}$ | 8 | 9 | 11 | 10 |
| $A.\overline{B}.\overline{C}$ | 16 | 17 | 19 | 18 |
| $A.\overline{B}.C$ | 20 | 21 | 23 | 22 |
| $A.B.C$ | 28 | 29 | 31 | 30 |
| $A.B.\overline{C}$ | 24 | 25 | 27 | 26 |

Groups

| | |
|---------------|---|
| (19,23,27,31) | A.D.E |
| (24,26,28,30) | A.B. \overline{E} |
| (0,2) | $\overline{A}.\overline{B}.\overline{C}.\overline{E}$ |
| (1,9) | $\overline{A}.\overline{C}.\overline{D}.E$ |

$y = ADE + ABE' + A'B'C'E' + A'C'D'E$





Truth Table

| | A | B | C | D | E | Y |
|----|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| 2 | 0 | 0 | 0 | 1 | 0 | 1 |
| 3 | 0 | 0 | 0 | 1 | 1 | 0 |
| 4 | 0 | 0 | 1 | 0 | 0 | 0 |
| 5 | 0 | 0 | 1 | 0 | 1 | 0 |
| 6 | 0 | 0 | 1 | 1 | 0 | 0 |
| 7 | 0 | 0 | 1 | 1 | 1 | 0 |
| 8 | 0 | 1 | 0 | 0 | 0 | 0 |
| 9 | 0 | 1 | 0 | 0 | 1 | 1 |
| 10 | 0 | 1 | 0 | 1 | 0 | x |
| 11 | 0 | 1 | 0 | 1 | 1 | x |
| 12 | 0 | 1 | 1 | 0 | 0 | 0 |
| 13 | 0 | 1 | 1 | 0 | 1 | 0 |
| 14 | 0 | 1 | 1 | 1 | 0 | x |
| 15 | 0 | 1 | 1 | 1 | 1 | x |
| 16 | 1 | 0 | 0 | 0 | 0 | 0 |
| 17 | 1 | 0 | 0 | 0 | 1 | 0 |
| 18 | 1 | 0 | 0 | 1 | 0 | 0 |
| 19 | 1 | 0 | 0 | 1 | 1 | 1 |

| | | | | | | |
|----|---|---|---|---|---|---|
| 20 | 1 | 0 | 1 | 0 | 0 | x |
| 21 | 1 | 0 | 1 | 0 | 1 | x |
| 22 | 1 | 0 | 1 | 1 | 0 | x |
| 23 | 1 | 0 | 1 | 1 | 1 | x |
| 24 | 1 | 1 | 0 | 0 | 0 | 1 |
| 25 | 1 | 1 | 0 | 0 | 1 | 0 |
| 26 | 1 | 1 | 0 | 1 | 0 | x |
| 27 | 1 | 1 | 0 | 1 | 1 | x |
| 28 | 1 | 1 | 1 | 0 | 0 | x |
| 29 | 1 | 1 | 1 | 0 | 1 | x |
| 30 | 1 | 1 | 1 | 1 | 0 | x |
| 31 | 1 | 1 | 1 | 1 | 1 | x |

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