

| <i><b>mintermo</b></i> | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> | <i><b>a</b></i> | <i><b>b</b></i> | <i><b>c</b></i> | <i><b>d</b></i> | <i><b>e</b></i> | <i><b>f</b></i> | <i><b>g</b></i> | <i><b>sin</b></i> | <b>C-2</b> |
|------------------------|----------|----------|----------|----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|------------|
| <b>0</b>               | 0        | 0        | 0        | 0        | 1               | 1               | 1               | 1               | 1               | 1               | 0               | 0                 | <b>0</b>   |
| <b>1</b>               | 0        | 0        | 0        | 1        | 0               | 0               | 0               | 0               | 1               | 1               | 0               | 0                 | <b>1</b>   |
| <b>2</b>               | 0        | 0        | 1        | 0        | 1               | 0               | 1               | 1               | 0               | 1               | 1               | 0                 | <b>2</b>   |
| <b>3</b>               | 0        | 0        | 1        | 1        | 1               | 0               | 0               | 1               | 1               | 1               | 1               | 0                 | <b>3</b>   |
| <b>4</b>               | 0        | 1        | 0        | 0        | 0               | 1               | 0               | 0               | 1               | 1               | 1               | 0                 | <b>4</b>   |
| <b>5</b>               | 0        | 1        | 0        | 1        | 1               | 1               | 0               | 1               | 1               | 0               | 1               | 0                 | <b>5</b>   |
| <b>6</b>               | 0        | 1        | 1        | 0        | 1               | 1               | 1               | 1               | 1               | 0               | 1               | 0                 | <b>6</b>   |
| <b>7</b>               | 0        | 1        | 1        | 1        | 1               | 0               | 0               | 0               | 1               | 1               | 0               | 0                 | <b>7</b>   |
| <b>8</b>               | 1        | 0        | 0        | 0        | 1               | 1               | 1               | 1               | 1               | 1               | 1               | 1                 | <b>-8</b>  |
| <b>9</b>               | 1        | 0        | 0        | 1        | 1               | 0               | 0               | 0               | 1               | 1               | 0               | 1                 | <b>-7</b>  |
| <b>10</b>              | 1        | 0        | 1        | 0        | 1               | 1               | 1               | 1               | 1               | 0               | 1               | 1                 | <b>-6</b>  |
| <b>11</b>              | 1        | 0        | 1        | 1        | 1               | 1               | 0               | 1               | 1               | 0               | 1               | 1                 | <b>-5</b>  |
| <b>12</b>              | 1        | 1        | 0        | 0        | 0               | 1               | 0               | 0               | 1               | 1               | 1               | 1                 | <b>-4</b>  |
| <b>13</b>              | 1        | 1        | 0        | 1        | 1               | 0               | 0               | 1               | 1               | 1               | 1               | 1                 | <b>-3</b>  |
| <b>14</b>              | 1        | 1        | 1        | 0        | 1               | 0               | 1               | 1               | 0               | 1               | 1               | 1                 | <b>-2</b>  |
| <b>15</b>              | 1        | 1        | 1        | 1        | 0               | 0               | 0               | 0               | 1               | 1               | 0               | 1                 | <b>-1</b>  |

a

|    |     |       |    |    |                    |
|----|-----|-------|----|----|--------------------|
|    | C=0 | D=B=0 |    |    |                    |
| AB | 00  | 01    | 11 | 10 |                    |
| 00 | 1   | 1     | 1  | 1  | $\rightarrow C=0$  |
| 01 | 1   | 1     | 1  | 1  | $\rightarrow AC$   |
| 11 | 1   | 1     | 1  | 1  | $\rightarrow B=CD$ |
| 10 | 1   | 1     | 1  | 1  | $\rightarrow A=B$  |

$\sim B \sim D + C \sim D + \sim AC + B \sim CD + A \sim B$

b

|  |       |   |   |   |
|--|-------|---|---|---|
|  | D=B=0 |   |   |   |
|  | 1     |   |   |   |
|  | 1     | 1 |   | 1 |
|  | 1     |   |   |   |
|  | 1     |   | 1 | 1 |

$\sim C \sim D + \sim AB \sim C + \sim AB \sim D + A \sim BC$

$\rightarrow AB \sim C$

$\rightarrow AB \sim D$

$\rightarrow A \sim BC$

c

|  |       |  |  |   |
|--|-------|--|--|---|
|  | D=B=0 |  |  |   |
|  | 1     |  |  | 1 |
|  |       |  |  | 1 |
|  | 1     |  |  | 1 |

$\sim B \sim D + C \sim D$

$\rightarrow C \sim D$

d

|  |       |   |         |   |
|--|-------|---|---------|---|
|  | D=B=0 |   | D=A=B=C |   |
|  | 1     |   | 1       | 1 |
|  |       | 1 |         | 1 |
|  | 1     |   | 1       | 1 |

$\sim B \sim D + \sim A \sim BC + C \sim D + B \sim CD + A \sim BC$

$\rightarrow C \sim D$

$\rightarrow B \sim CD$

$\rightarrow A \sim BC$

e

|  |     |   |   |
|--|-----|---|---|
|  | C=D |   |   |
|  | 1   | 1 | 1 |
|  | 1   | 1 | 1 |
|  | 1   | 1 | 1 |
|  | 1   | 1 | 1 |

$\sim C + D + \sim AB + A \sim B$

$\rightarrow \sim AB$

$\rightarrow A \sim B$

|    | 00 | 01 | 11 | 10 |                 |
|----|----|----|----|----|-----------------|
| 00 | 1  | 1  | 1  | 1  | $\sim A \sim B$ |
| 01 | 1  | 1  | 1  | 0  | $\sim A \sim C$ |
| 11 | 1  | 1  | 1  | 1  | $AB$            |
| 10 | 1  | 1  | 1  | 0  | $\sim A \sim C$ |

$\sim A \sim B + \sim A \sim C + AB + \sim C \sim D + A \sim C$

|    | 00 | 01 | 11 | 10 |                 |
|----|----|----|----|----|-----------------|
| 00 | 1  | 1  | 1  | 1  | $\sim B \sim C$ |
| 01 | 1  | 1  | 1  | 1  | $\sim C \sim D$ |
| 11 | 1  | 1  | 1  | 1  | $\sim B \sim C$ |
| 10 | 1  | 1  | 1  | 1  | $\sim C \sim D$ |

$\sim B \sim C + \sim C \sim D + A \sim C \sim D + B \sim C$

|    | 00 | 01 | 11 | 10 |     |
|----|----|----|----|----|-----|
| 00 | 1  | 1  | 1  | 1  | $A$ |
| 01 | 1  | 1  | 1  | 1  | $A$ |
| 11 | 1  | 1  | 1  | 1  | $A$ |
| 10 | 1  | 1  | 1  | 1  | $A$ |

$A$