**\*** Simply the Boolean function.

$$F(w, x, y, z) = \sum (1, 3, 7, 11, 15)$$ which has

don't care conditions $d(w, x, y, z) = \sum (0, 2, 5)$

and show "An expression with the minimum

number of literals is not necessarily

unique".

wx\yz

| wx\yz | 00 | 01 | 11 | 10 |
|-------|----|----|----|----|
| 00 | X | 1 | 1 | X |
| 01 |   | X | 1 |   |
| 11 |   |   | 1 |   |
| 10 |   |   | 1 |   |

$$F = w'z + yz$$

We can also find another minimal

expression by choosing different grouping

| wx\yz | 00 | 01 | 11 | 10 |
|-------|----|----|----|----|
| 00 | X | 1 | 1 | X |
| 01 |   | X | 1 |   |
| 11 |   |   | 1 |   |
| 10 |   |   | 1 |   |

$$F = w'x' + yz$$

Since, we have two different minimal expressions with the same numbers of literals, this demonstrates that "An expression with the minimum number of literal is not necessarily unique".

$\therefore F = w'z + yz$ or $F = w'n' + yz$

Ⓑ Both are valid minimal expression.