CNF Satisfiability → Base Problem

$x_i = \{x_1, x_2, x_3\}$

$\Rightarrow (x_1 \vee \bar{x}_2 \vee x_3) \wedge (\bar{x}_1 \vee x_2 \vee \bar{x}_3)$

↳ NP-Hard

CNF Satisfiability α 0/1 knapsack

↳ $O(2^n)$ → exponential

x_1	x_2	x_3
0	0	0
0	0	1
0	1	0
0	1	1
1	0	0
1	0	1
1	1	0
1	1	1

→ 2^3 combinations

n variables

↳ 2^n combinations

2^n → Exponential

$2^3 = 8$

n	1	2	3
Profit	—	—	—
Weight	—	—	—
x_i	0/1	0/1	0/1

Non-determination → NP-Complete

Solution → NP

satisfiability → NP-Hard → Base problem

Deterministic Solution → P

Polynomial & Standard algo