Kenber C

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Qeiltation: Wild West produces two types of cowboy hats A type 1 requires three times as much labor time ar a type2. If the all available labor time is decicated to Type 2 alone, the company can produce a total of 450 Type 2 hats aday. The market limits for the two types are 100 and 300 hats per day for Type 1 and Type 2, respectively. The profit is $8 per Type 1 hat and $5 per Type 2 hat Determine the number of hats of Each type that would maximize profit

i) Build the mathematical model of the problen

ii) Solve the problem graphically.

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i.) Type 1 => x number of hats

Type 2 => y nuber of hats

Objective Questation

$\max z = 8x + 5y$

Constraints

$3x+y \leq 450$

$x \leq 100$

$y \leq 300$

$x \geq 0 \quad , \quad y \geq 0$

Type 1 => 3 a hours

Type 2 => d hours

max available = 450 ahours

$3ax + dy \leq 450a$

Coordinads	$P = 8x + 5y$
(0, 0)	0
(100, 0)	800
(0, 300)	1500
(50, 300)	1900 max
(200, 250)	1550

Two maximize profit - produce

Type 1 => 50

Type 2 => 300

(ii)