FURKAN CETIN

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IE3075 Quiz 1

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Question 1.

Wild west produces two types of cowboy hats. A type 1 hat requires three times as much labor time as a type 2. If the all available labor time is dedicated to type 2 alone, the company can produce a total of 450 Type 2 hats a day. The markets limits for the two types are 100 and 300 hats per day, for type1 and type 2, respectively. The profits is $8 per type1 hat and $5 per type2 hat. Determine the number of hats each type that would maximize profit.

Solution 8

Type 1 is x

Type 2 is y

Total available = 450

maximize = $8x + 5y$

Subject to

$3x + y \leq 450$

$x \leq 100$

$y \leq 300$

$x, y \geq 0$

points =

$(0,0), (0,450), (150,0)$