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IE3035 QUIZ 1

1.) Wild west produces two types of cowboy hats. A type 1 hat requires 3 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 450 type 2 hats a day. 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 each type max profit.

1-) Build math model

2-) Solve graphically

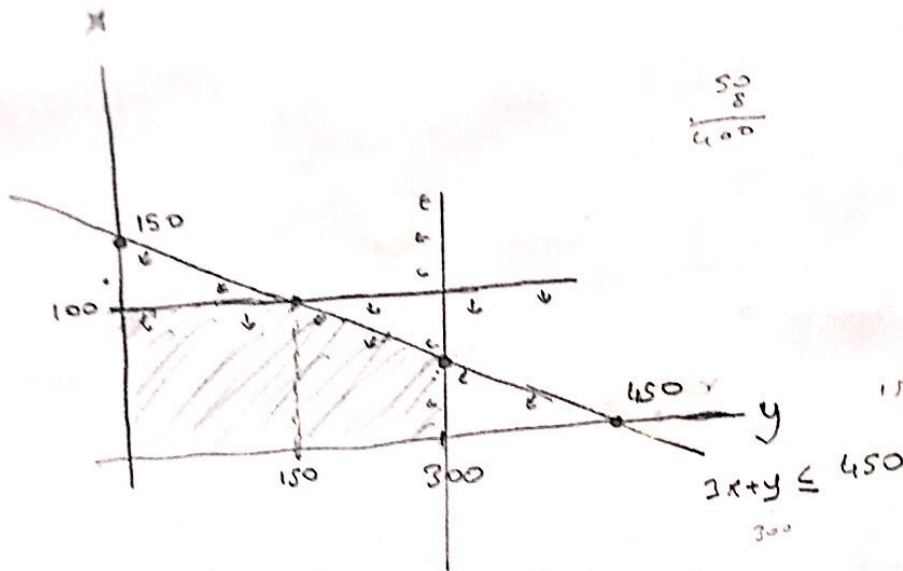
$$x + y \leq 450$$

$$y \leq 450 - \text{can produce}$$

$$y \leq 300 - \text{limit}$$

$$x \leq 100 - \text{limit}$$

profits
 $x \rightarrow \$8$
 $y \rightarrow \$5$



let's test 2 points:

$$(100, 150) \rightarrow \text{the profit } 800 + 750 = 1550 \$$$

$$(50, 300) \rightarrow \text{the profit } 400 + 1500 = 1900 \$$$

the max profit is (50, 300)