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Formulation

Let

      X1 be number of GE45,

      X2 be number of GE60

Objective function:

      Max Z = 50 X1 + 75 X2

Constraints

      2 X1 + 2 X2 <= 300

      1 X1 + 3 X2 <= 240

      X1, X2 >= 0

Question 1)

What production levels of GE45 and GE60 television sets optimize the expected profit per shift?

GE45	GE60
105	45

Question 2)

What is the optimal expected profit per shift?
Max profit = 8625

Question 3)

Without re-solving the problem, would the optimal solution change if the unit profit for GE60 televisions were increased to
a. $I35? no,
According to sensitivity analysis Number of units produced from GE60 allowable to increase by 75 and decrease by 25 so 75 + 75 = $150 and $135 less than $150
b. $300? yes,
According to sensitivity analysis Number of units produced from GE60 allowable to increase by 75 and decrease by 25 so 75 + 75 = $150 and $300 greater than $150