HONORS

P1. A company produces two models of light fixtures, A and B, each of which must be assembled and packed. The time required to assemble model A is 12 minutes, and to assemble model B it takes 18 minutes. It takes 2 minutes to package model A and 1 minute to package model B. Each week there are 240 hours of assembly time and 20 hours of packing time available. If model A sells for $1.50 and model B sells for $ 1.70, how many of each model should be produced to obtain the maximum weekly income? What is the maximum weekly income? (BE SURE YOU CONVERT HOURS TO MINUTES!!)

Let =

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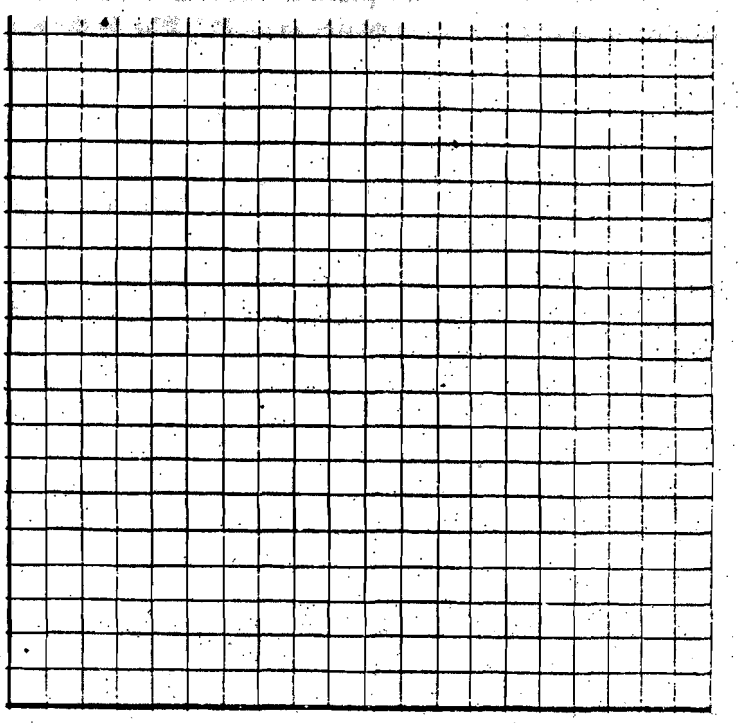
Objective function: I = (income)

Constraints: (assembly)

(packaging)



P2.

A company manufactures two types of clocks, Model 82 and Model 47. There are three stations, A, B, and C, on the assembly line. The assembly of one Model 82 requires 30 minutes at station A, 20 minutes at station B, and 12 minutes at station C. Model 47 requires 15 minutes at station A, 30 minutes at station B, and 10 minutes at station C. Station A can be operated for no more than 4 hours a day, station B can be operated for no more than 6 hours, and station C can be operated for no more than 8 hours. If the profit on each Model 82 is $10 and on Model 47 is $6, how many of each model should be assembled each day to provide maximum profit? What is the maximum daily profit?