Solving Problems Involving Systems of Linear Inequalities in Two Variables

Total points = 22

1. Solution

300 total number of seats ✓ Given: cost of each adult ticket ✓ 75 cost of each child ticket ✓ number of adult tickets sold ✓ number of child tickets sold ✓ С Ineq. 1: a + c \leq 300 √ Ineq. 2: 75a + 55c \geq 20,000 🗸

Therefore, the system of linear inequalities that models this situation $a+c \leq 300$ is $75a + 55c \ge 20000$

2. Solution

Given: 80 cost of one pot of rose ✓ cost of one pot of sunflower ✓ 120 =Let. number of roses to buy ✓ number of sunflowers to buy v Ineq. 1: x + y \geq 6 √ Ineq. 2: 80x + 120y \leq 600 **√**

Therefore, the system of linear inequalities that models this situation $\begin{cases} x + y \ge 6 \end{cases}$ is $80x + 120y \le 600$

3. Solution

Given: cost of each plant ✓ 100 = cost of soil per bag ✓ number of plants to buy 🗸 р number of bags of soil to buy \checkmark s р 5 🗸 Ineq. 2: 100p + 40s1000 🗸

Therefore, the system of linear inequalities that models this situation $p \geq 5$ $100p + 40s \le 1000$

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Therefore, the system of linear inequalities that models this situation $\int x + y \ge 6$ $80x + 120y \le 600$

3. Solution

Given: cost of each plant ✓ 100 =cost of soil per bag ✓ 40 =Let: = number of plants to buy ✓ р 5 number of bags of soil to buy 🗸 Inea. 1: 5 🗸 р Ineq. 2: $100p + 40s \le$ 1000 √

Therefore, the system of linear inequalities that models this situation *p* ≥ 5 $100p + 40s \le 1000$

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1. Solution

total number of seats ✓ 300 = cost of each adult ticket ✓ 75 cost of each child ticket ✓ 55 number of adult tickets sold ✓ number of child tickets sold ✓ С Inea. 1: a+c300 √ Ineq. 2: 75a + 55c> 20,000 🗸

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