Homework 10
Solutions

1. a) Net demands: (20, 10, 30, 20, 30)

\[ z_1 = 20 \]
\[ z_2 = \min \left\{ (20 + 10) = 30 \right\} \]
\[ z_3 = \min \left\{ (20 + 10 + 30) = 90 \right\} \]
\[ z_4 = \min \left\{ (20 + 1.20) = 110 \right\} \]
\[ z_5 = \min \left\{ (150 + 3.30) = 270 \right\} \]

2. Optimal schedules:
1) Produce at: 1-3-4-5
2) Produce at: 1-3-5
b) 1) 1-3-4-5:

Setup cost: $20 \times 4 = 80$
Holding cost: $10 \times 1 + 9 \times 9$

2) 1-3-5

Setup cost: $20 \times 3 = 60$
Holding cost: $10 \times 1 + 20 \times 9 = 39$

\[
\frac{79}{2} = 99
\]