(1) $\overset{A}{NaHCO_3} + \overset{B}{H_3C_6H_5O_7} \rightarrow \overset{C}{Na_3C_6H_5O_7} + \overset{D}{H_2O} + \overset{E}{CO_2}$

I $A = 3C$ (Na)

II $A + 3B = 2D$ (H)

III $B = C$ $(C_6H_5O_7)$

IV $3A = D + 2E$ (O)

V $A = E$ (C)

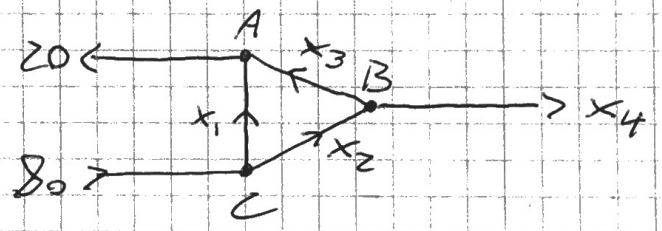
IV $3A = D + 2A \rightarrow A = D$

II $3B = A \rightarrow B = C$

Løsning: $A = E = D$ V $B = C = \frac{1}{3}A$

$3NaHCO_3 + H_3C_6H_5O_7 \rightarrow Na_3C_6H_5O_7 + 3H_2O + 3CO_2$

(2)



$x_1 + x_3 = 20$

assuming all flows are non-negative:

$x_1 = 0 \rightarrow x_3 = 20$ is the largest value for x_3

Checking:

this gives $x_1 + x_2 = 80 \rightarrow x_2 = 80$

and $x_4 = x_2 - x_3 = 60$

All values are non-negative, so $x_3 = 20$ is a valid Solution.