S06 Aufg01 - Jari Rentsch, Sydney Nguyen

(A1)

a)

$$\left(\begin{array}{ccc|c} 20 & 10 & 0 & 150 \\ 50 & 30 & 20 & 470 \\ 200 & 150 & 100 & 2150 \end{array}\right) \sim \left(\begin{array}{ccc|c} 2 & 1 & 0 & 15 \\ 5 & 3 & 2 & 47 \\ 4 & 3 & 2 & 43 \end{array}\right) \sim \left(\begin{array}{ccc|c} 0 & 1 & 0 & 11 \\ 1 & 0 & 0 & 2 \\ 0 & 1 & 2 & 13 \end{array}\right)$$

$$\sim \left(\begin{array}{ccc|c} 1 & 0 & 0 & 2 \\ 0 & 1 & 0 & 11 \\ 0 & 0 & 2 & 2 \end{array}\right) \qquad \begin{array}{l} A = 2 \\ B = 11 \\ C = 2 \end{array}$$

b)

$$\left(\begin{array}{ccc|c} 20 & 10 & 0 & 120 \\ 50 & 30 & 20 & 350 \\ 200 & 150 & 100 & 1600 \end{array}\right) \sim \left(\begin{array}{ccc|c} 2 & 1 & 0 & 12 \\ 5 & 3 & 2 & 35 \\ 4 & 3 & 2 & 32 \end{array}\right) \sim \left(\begin{array}{ccc|c} 2 & 1 & 0 & 12 \\ 1 & 0 & 0 & 3 \\ 0 & 1 & 2 & 8 \end{array}\right)$$

$$\sim \left(\begin{array}{ccc|c} 1 & 0 & 0 & 3 \\ 0 & 1 & 0 & 6 \\ 0 & 0 & 1 & 1 \end{array}\right) \qquad \begin{array}{l} A = 3 \\ B = 6 \\ C = 1 \end{array}$$