B5-3

(a) $\frac{W_S\ (kg)}{W_A\ (kg)} = \frac{M_S \times n_S}{M_A \times n_A} \cdot \frac{M_S \times n_t y_S}{M_A \times n_t y_A} = \frac{M_S y_S}{M_A y_A} = \frac{M_S P_S}{M_A P_A}$ (2)

1) (b) 361 K.

$P = P_{steam} + P_{p\text{-}xylene}$

$P - P_{steam} = P_{p\text{-}xylene}$

$= 21\ kPa.$

$P_{steam} = 86 - 21 = 65\ kPa.$

$\frac{y_S}{y_P} = \frac{P_S}{P_P} = \frac{65}{21} = 3.095$

$y_S = 3.095\, y_P$

(c) $y_P = \frac{1}{4.095} = 0.244,\ y_S = 0.756.$ (4)

(d) $\frac{W_S}{W_A} = \frac{M_S P_S}{M_A P_A} = \frac{18 \times 65}{106 \times 21} = 0.526$ (3)

(e) $W_S = 0.526\, W_A$

$= 0.526\ kg$ (3)

2) (f) 365 K. で 高くなる

(g) $P_A = 10\ kPa,\ P_S = 86 - 10 = 76.$

$\frac{W_S}{W_A} = \frac{M_S P_S}{M_A P_A} = \frac{18 \times 76}{120 \times 10} = 1.14$

少なくなる