

**EXAMPLE 13.16**

Benzene - Species 1

Hydrogen - Species 2

Cyclohexane - Species 3

**Initial guess values**

$$y_1 := 0.1 \quad y_2 := 0.7 \quad y_3 := 0.1 \quad n := 4$$

Given

$$\frac{y_3}{y_1 \cdot y_2^3} = 1.47$$

$$y_1 + y_2 + y_3 = 1$$

$$6y_1 + 6y_3 = \frac{6}{n}$$

$$6y_1 + 2y_2 + 12y_3 = \frac{15}{n}$$

$$\text{Find}(y_1, y_2, y_3, n) = \begin{pmatrix} 0.14 \\ 0.768 \\ 0.093 \\ 4.302 \end{pmatrix}$$