

ORIGIN := 1

R := 8.314

$$\gamma_1(x_1, T) := \exp\left[\frac{125.03(19.8 - 20.3)^2}{R \cdot T} \cdot \left[\frac{(1 - x_1) \cdot 101.8}{125.03x_1 + 101.8 \cdot (1 - x_1)}\right]^2\right]$$

$$\gamma_2(x_1, T) := \exp\left[\frac{101.8(19.8 - 20.3)^2}{R \cdot T} \cdot \left[\frac{125.03x_1}{125.03x_1 + 101.8 \cdot (1 - x_1)}\right]^2\right]$$

$$f(x_1, T) := \ln(\gamma_1(x_1, T) \cdot x_1) - \frac{18803}{R \cdot 353.35} \cdot \left(1 - \frac{353.35}{T}\right)$$

$$g(x_1, T) := \ln[\gamma_2(x_1, T) \cdot (1 - x_1)] - \frac{18082}{R \cdot 326.24} \cdot \left(1 - \frac{326.24}{T}\right)$$

T := 250

x<sub>1</sub> := 0.1, 0.2 .. 0.9

root(f(x<sub>1</sub>, T), T) =

260.198
282.626
297.618
309.255
318.929
327.301
334.736
341.462
347.632

root(g(x<sub>1</sub>, T), T) =

321.171
315.698
309.724
303.107
295.64
286.987
276.548
263.051
242.773

