(a) $T_i = A + BT_2 + CT_2^2$

$T_1 = 11.6°C \quad T_2 = 12.8°$

$T_1 = ?° \quad T_2 = 36°C.$

At ice point

$T_i = T_{\hat{i}} = 0° = T_2$

$0 = A + B(0) + C(0)^2$

$A = 0 \quad -①$

At steam point

$T_1 = T_S = 100° = T_2$

$t_S = A + BT_S + CT_S^2$

$100 = 0 + 100B + (100)^2C.$

taking $T_{\hat{i}} = 11.6°C \quad T_2 = 12.8°C.$

$t_1 = A + BT_2 + CT_2^2$

$11.6 = 0 + B(12.8) + C(12.8)^2$

$11.6 = 12.8B + 163.84C \quad -③.$

taking eq ② & ③.

$100 = 100B + 10^4C \quad \times 12.8$

$11.6 = 12.8B + 163.84C \times 100.$

$1280 = 1280B + 12.8 \times 10^4$

$1160 = 1280B + 163.84 \times 10^2C$

$120 = 128{,}000C - 16389C$

$120 = 111616C$

$120/111616 = C$

$1.075 \times 10^{-3} = C.$

Sub in eq ②

$1280 = 1280B + 12.8 \times 10^4(1.075 \times 10^{-3})$

$1280 = 1280B + 137.6$

$1142.4 = 1280B \quad .892 = B.$

Subs A, B, C in eq

$t_i = A + BT_2 + C(t_2)^2$

$t_1 = 0 + .892(36) + (1.075 \times 10^{-3})($

$t_i° = 32.112 + 1.3932$

$t_i = 33.505°C$