

Exercise 10-7

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$$\Delta S = \int_{T_0}^T \frac{C_V}{T} dT = \int_{T_0}^T \frac{A\sqrt{T}}{T} + \frac{BT^3}{T} dT = \int_{T_0}^T AT^{-\frac{1}{2}} + BT^2 dT$$

$$= \frac{1}{\left(\frac{1}{2}\right)} A (\sqrt{T} - \sqrt{T_0}) + \frac{B}{3} (T^3 - T_0^3)$$

$$= 2A (\sqrt{T} - \sqrt{T_0}) + \frac{B}{3} (T^3 - T_0^3)$$

which seems fine