Problem 15. Equation of state for a mole of some non-ideal gas has the following form
\[ PV \left( 1 + \frac{AV}{T} \right) = RT, \]
with \( A > 0 \). Find the difference in the specific heats \( C_p - C_v \) for such gas. Compare it to the same difference for one mole of ideal gas. [5 points].

Problem 16. For the same gas as in the preceding problem find if the Joule-Thomson coefficient \( \mu \) is positive or negative [5 points].

Hint: make use of the formulas from Section 6-10, which give,
\[ \mu = \frac{1}{C_p} \left[ T \left( \frac{\partial V}{\partial T} \right)_P - V \right]. \]