Name:
Score:
Instructions: You must show supporting work to receive full and partial credits. No text book, notes, formula sheets allowed.
$1(8 \mathrm{pts})$ Solve the equation $t x^{\prime \prime}=-x^{\prime}+4 t$ by reducing it to a first-order equation.
$2(7 \mathrm{pts})$ Find the solution to the initial value problem $u^{\prime \prime}+u^{\prime}+u=0, u(0)=u^{\prime}(0)=1$.

