1. [15 points] Find real-valued solutions to each of the following, as indicated. Where possible, find explicit solutions.
a. $[8$ points $] \ln \left(1 / y^{2}\right) \frac{d y}{d t}=r y, y(0)=e$.
b. [7 points] Find the general solution to $t \frac{d y}{d t}=r y+t^{2}$.
