

HOMEWORK 5
DIFFERENTIAL EQUATIONS
DUE 08-31

Show your work!

- (1) Consider the differential equation $\dot{y} = (1 + y)^2$.
 - (a) ~~Use separation of variables to find a solution to the above equation in the form $ay^2 + by + f(t) = 0$. (The constant C will be part of your function $f(t)$.)~~
 - (b) ~~Use the quadratic formula to find an explicit formula for y in terms of t .~~
 - (c) If $y(0) = -4$, then what is $y(8)$?
- (2) **Four** book problems: #1.2.20, 33, 39, 42.