

1. Do the following problems 7.2, 7.3, 7.12, 7.13

2. Let $y' = y^2 - 5t$ and let $y(0) = 1$. Is the problem stable or unstable at $t = 0$?

3. Apply three steps of the Euler and the modified Euler method, with a step size of 0.1 for the above problem, and compute approximations for $y(0.1)$, $y(0.2)$ and $y(0.3)$