

## MATH 341 – QUIZ # 2

**Instructions.** Show all your work. Be sure your name is on the booklet and that you have signed the honor pledge. You may *not* use calculators, notes, or any other form of assistance on this quiz.

- (1) Compute the first two Picard iterates (i.e.  $y_0(t)$  and  $y_1(t)$ ) for the initial value problem  $y' = t^2 + y^2; y(0) = 1$ .

*please turn ↔*

(2) Find the solutions to the following initial value problems.

(a)  $t^2(1 + y^2) + 2yy' = 0; y(0) = 1.$

(b)  $2ty^3 + 3t^2y^2y' = 0; y(1) = 1.$