

HOMEWORK 3  
Due Sept 20

1. Find the maximum interval of existence for

$$x' = Ax, \quad x(0) = x_0$$

where  $A$  is constant  $n \times n$  matrix and  $x_0$  a constant  $n$ -vector,

2. Find the maximum interval of existence for

$$x' = \frac{1}{1-x} \quad x(0) = 0$$

3. Exercise 4 page 20
4. Exercise 5 page 23
5. exercise 6 page 27