

Week 5 HW (due Oct. 10th)

Instructions. You *must* declare all resources that you have used on this homework (include but not limited to anyone, any book, and any webpage). Do not skip steps.

1. [B-N] Page 50 Problem 27.
2. [B-N] Page 54 Problem 5.
3. [B-N] Page 54 Problem 6(a) and 6(c).
4. [B-N] Page 59 Problem 9.
5. [B-N] Page 60 Problem 10.
6. Find the fundamental matrix of

$$\frac{dy}{dt} = Ay,$$

where

$$A = \begin{bmatrix} -3 & 1 & 7 \\ 0 & 4 & -1 \\ 0 & 0 & 2 \end{bmatrix}.$$