

Answers to the even numbered problems, HW 9

1. Section 3.2, # 2

Yes

2. Section 3.2, # 4

No

3. Section 3.2, # 6

Yes

4. Section 3.2, # 8

Yes

5. Section 3.2, # 10

No

6. Section 3.8, # 2

$$\bar{x}(t) = C_1 e^{2t} \begin{pmatrix} 1 \\ 4 \end{pmatrix} + C_2 e^{-t} \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$

7. Section 3.8, # 14

Eigenvalues of A are 1, 2, and 3; the corresponding eigenvectors are $\begin{pmatrix} 1 \\ 0 \\ 0 \end{pmatrix}$, $\begin{pmatrix} 1 \\ 1 \\ 0 \end{pmatrix}$, and $\begin{pmatrix} 1 \\ 1 \\ 1 \end{pmatrix}$.