

Answers

1. (a) Basis for $N(T)$: $\left\{ \begin{bmatrix} 1 & 0 \\ -1 & 0 \end{bmatrix}, \begin{bmatrix} 0 & 1 \\ 0 & 0 \end{bmatrix}, \begin{bmatrix} 0 & 0 \\ 0 & 1 \end{bmatrix} \right\}$

(b) Basis for $R(T)$: $\{1\}$

(c) $[T]_{\beta}^{\gamma} = (1 \ 0 \ 1 \ 0)$

2. (a) Page 67

(b) Theorem 2.1, page 68

3. Section 2.1 # 14a

4. Section 2.3 # 12