

Sample Test 3 Answers

1. (a) $[T]_{\beta}^{\beta} = \begin{pmatrix} -1 & 1 \\ 0 & -1 \end{pmatrix}$

(b) $Q = \begin{pmatrix} 1 & 1 \\ 1 & -1 \end{pmatrix}$

(c) $[T]_{\gamma}^{\gamma} = \begin{pmatrix} -1/2 & -1/2 \\ 1/2 & -3/2 \end{pmatrix}$

(d) $T^{-1}(a + bx) = (-a - b) - bx$

2. Theorem 2.17, page 100

3. Section 2.4 # 5

4. Section 4.3 # 12