Stiffness Matrix for a Bar Element

Problems:

2. Verify the global stiffness matrix for a three-dimensional bar. ***Hint***: First, expand **T*** to a 6 x 6 square matrix, then expand **k** to 6 x 6 square matrix by adding the appropriate rows and columns of zeros, and finally, perform the matrix triple product $\mathbf{k} = \mathbf{T}^T\mathbf{k}'\mathbf{T}$.

3a. Do problems ***3.4***, ***3.10***, ***3.12, 3.15a,b, 3.18, 3.23, 3.37, 3.43,*** and ***3.48*** on pages 146 - 165 in your textbook “A First Course in the Finite Element Method” by D. Logan.

End of Chapter 3a