

The list of numerical answers for 3D7

1. (a)

$$k_{11} = 1.733E_0A_0$$

$$k_{12} = 0.4E_0A_0$$

$$k_{13} = -2.133E_0A_0$$

(b) (i) $3.2 \cdot 10^9$ bytes; (ii) $6.4 \cdot 10^5$ bytes

2. (a) (ii)

$$\mathbf{f}^e = [0 \quad -\frac{1}{6}\bar{q}L \quad \frac{1}{6}\bar{q}L \quad -\frac{2}{3}\bar{q}L \quad 0 \quad \frac{2}{3}\bar{q}L]^T$$

3. (a) $x = 0.9554$ $y = 2.1994$

(b)

$$\mathbf{J} = \begin{bmatrix} 0.6057 & 0.3943 \\ -0.3943 & 1.3943 \end{bmatrix}$$

(c) $\epsilon_{xx} = 3.943 \cdot 10^{-3}$, $\epsilon_{yy} = 7.886 \cdot 10^{-3}$, $\epsilon_{xy} = 5.915 \cdot 10^{-3}$