

3M1 Mathematical Methods 2012

Answers

Q1 (b) $\begin{bmatrix} \frac{1}{24} & \frac{1}{6} & -\frac{5}{24} \\ -\frac{5}{24} & \frac{1}{6} & \frac{1}{24} \end{bmatrix}$ (other equivalent results are possible)

Q2 (b) $x = 7.52 \times 10^{-3}$ m; $y = 2.44 \times 10^{-3}$ m

(d) $\mathbf{x}_2 = \begin{bmatrix} 6.294 \times 10^{-3} \\ 3.634 \times 10^{-3} \end{bmatrix}$; $\mathbf{x}_3 = \begin{bmatrix} 7.066 \times 10^{-3} \\ 2.295 \times 10^{-3} \end{bmatrix}$

Q3 (c) $D = \frac{5}{3}$ m; $L = \frac{12}{5}$ m

Q4 (c) 3

(d) $\left(\frac{9}{27} \quad \frac{10}{27} \quad \frac{8}{27} \right)$