

Class 4 Partial Answers

Physics 403: Mathematical Methods

February 25, 2008

1.

$$\mathbf{A}^{-1} = \begin{pmatrix} 15/13 & -18/13 & -16/13 \\ 8/13 & -7/13 & -12/13 \\ -2/13 & 5/13 & 3/13 \end{pmatrix}.$$

2.

$$\mathbf{C}^{-1} = \frac{1}{609} \begin{pmatrix} -1 & 26 & 95 & 103 \\ -23 & -11 & -251 & -67 \\ 71 & -19 & -46 & -5 \\ -5 & 130 & -134 & -94 \end{pmatrix}.$$

3.

$$\mathbf{A}^{-1} = \frac{1}{5} \begin{pmatrix} 4 & 1 \\ 3 & 2 \end{pmatrix}.$$

$$x = -33/5, \quad y = -26/5$$

4.

$$\mathbf{A}^{-1} = \begin{pmatrix} 1/3 & 1/6 & -1/6 \\ -1/3 & 1/21 & 11/21 \\ -1/3 & 5/42 & 13/42 \end{pmatrix}.$$

$$x = 4, \quad y = -1, \quad z = 2$$