

## Errata for MA1101R AY2014/15 Semester 1 Solutions

### Question 2(b)

(i) Since  $[\mathbf{u} - \mathbf{v}]_S = \begin{pmatrix} 1 \\ -1 \end{pmatrix}$  and  $[\mathbf{u} + 2\mathbf{v}]_S = \begin{pmatrix} 1 \\ 2 \end{pmatrix}$ , the transition matrix from  $T$  to  $S$  is  $\begin{pmatrix} 1 & 1 \\ -1 & 2 \end{pmatrix}$ .

(ii) The transition matrix from  $S$  to  $T$  is  $\begin{pmatrix} 1 & 1 \\ -1 & 2 \end{pmatrix}^{-1} = \frac{1}{3} \begin{pmatrix} 2 & -1 \\ 1 & 1 \end{pmatrix}$ .

(iii)  $[\mathbf{w}]_S = \begin{pmatrix} 1 & 1 \\ -1 & 2 \end{pmatrix} [\mathbf{w}]_T = \begin{pmatrix} 1 & 1 \\ -1 & 2 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \end{pmatrix} = \begin{pmatrix} 3 \\ 3 \end{pmatrix}$

Apologies for any inconvenience caused.