

(14)

$$\therefore (f \circ \gamma)'(0) \alpha$$

$$= (x_1, x_2, x_3) \begin{pmatrix} 0+0+0+0 & 2(0+d') & 2(-c'+0) \\ 2(0-d') & 0 & 2(b'+0) \\ 2(0+c') & 2(-b'+0) & 0 \end{pmatrix}$$

$$= (x_1, x_2, x_3) \begin{pmatrix} 0 & 2d' & -2c' \\ -2d' & 0 & 2b' \\ 2c' & -2b' & 0 \end{pmatrix}$$

$$= (x_1, x_2, x_3) 2 \begin{pmatrix} 0 & d' & -c' \\ -d' & 0 & b' \\ c' & -b' & 0 \end{pmatrix}$$

which becomes the answer  
given in the question after the  
identification  $x \rightarrow \Gamma$   
 $b' \rightarrow \mu, d' \rightarrow \nu, \lambda \rightarrow \rho$

✓ (10)