10	**(a)**		$7\cos x - 2\sin x = R\cos(x+\alpha)$ $\Rightarrow 7 = R\cos\alpha,\ 2 = R\sin\alpha$ $R = \sqrt{7^2+2^2} = \sqrt{53}$ $\alpha = \arctan\frac{2}{7} = 0.278...$	**M1** **B1** **M1** **A1** **[4]**	**1.1a** **1.1b** **1.1a** **1.1b**	Forming two equations soi. Allow sign errors. Allow even if from equations with sin/cos interchange; must be exact **FT** their equations cao (3sf) Must be in radians for the A mark.	Allow M1M1 for $\alpha = \arctan\left(\pm\frac{2}{7}\right)$ $\alpha = 15.9°$ gets M1M1A0
10	**(b)**		$y = \frac{1}{7\cos x - 2\sin x} = \frac{1}{\sqrt{53}}\sec(x+\alpha)$ In either order Stretch scale factor $\frac{1}{\sqrt{53}}$ in the y-direction Translation $\begin{pmatrix}-0.278\\0\end{pmatrix}$	 **B1** **B1** **B1** **[3]**	 **1.1a** **1.1b** **1.1b**	 Stretch in the y-direction for correct scale factor **FT** their value for R **FT** their value for α. Allow for translation to the left by 0.278	Do not allow enlargement instead of stretch Do not allow for "shift" or "slide" used instead.