

10 (a) Express $7 \cos x - 2 \sin x$ in the form $R \cos(x + \alpha)$ where $R > 0$ and $0 < \alpha < \frac{1}{2}\pi$, giving the exact value of R and the value of α correct to 3 significant figures. [4]

(b) Give details of a sequence of two transformations which maps the curve $y = \sec x$ onto the curve $y = \frac{1}{7 \cos x - 2 \sin x}$. [3]