

12. (a) Show that

$$\frac{10\sin^2 \theta - 7\cos \theta + 2}{3 + 2\cos \theta} \equiv 4 - 5\cos \theta \quad (4)$$

(b) Hence, or otherwise, solve, for $0 \leq x < 360^\circ$, the equation

$$\frac{10\sin^2 x - 7\cos x + 2}{3 + 2\cos x} = 4 + 3\sin x \quad (3)$$