# Higher Maths
# SQA 2025 Paper 2
# Question 6

(a) Express $5\cos x - 9\sin x$ in the form $k\cos(x+a)$ where $k > 0$ and $0 < a < 2\pi$. **4**

(b) Hence solve $5\cos x - 9\sin x = 7$ for $0 \leq x < 2\pi$. **3**

Answers:

(a) $\sqrt{106}\cos(x + 1.06\ldots)$

(b) $x$ = 6.04…, 4.396…

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