

11. (a) Express $\cos x^\circ + \sqrt{3} \sin x^\circ$ in the form $k \cos(x - a)^\circ$, where $k > 0$ and $0 < a < 360$. 4

(b) Hence, or otherwise, sketch the graph with equation $y = \cos x^\circ + \sqrt{3} \sin x^\circ$,
 $0 \leq x \leq 360$.

Use the diagram provided in your answer booklet. 3