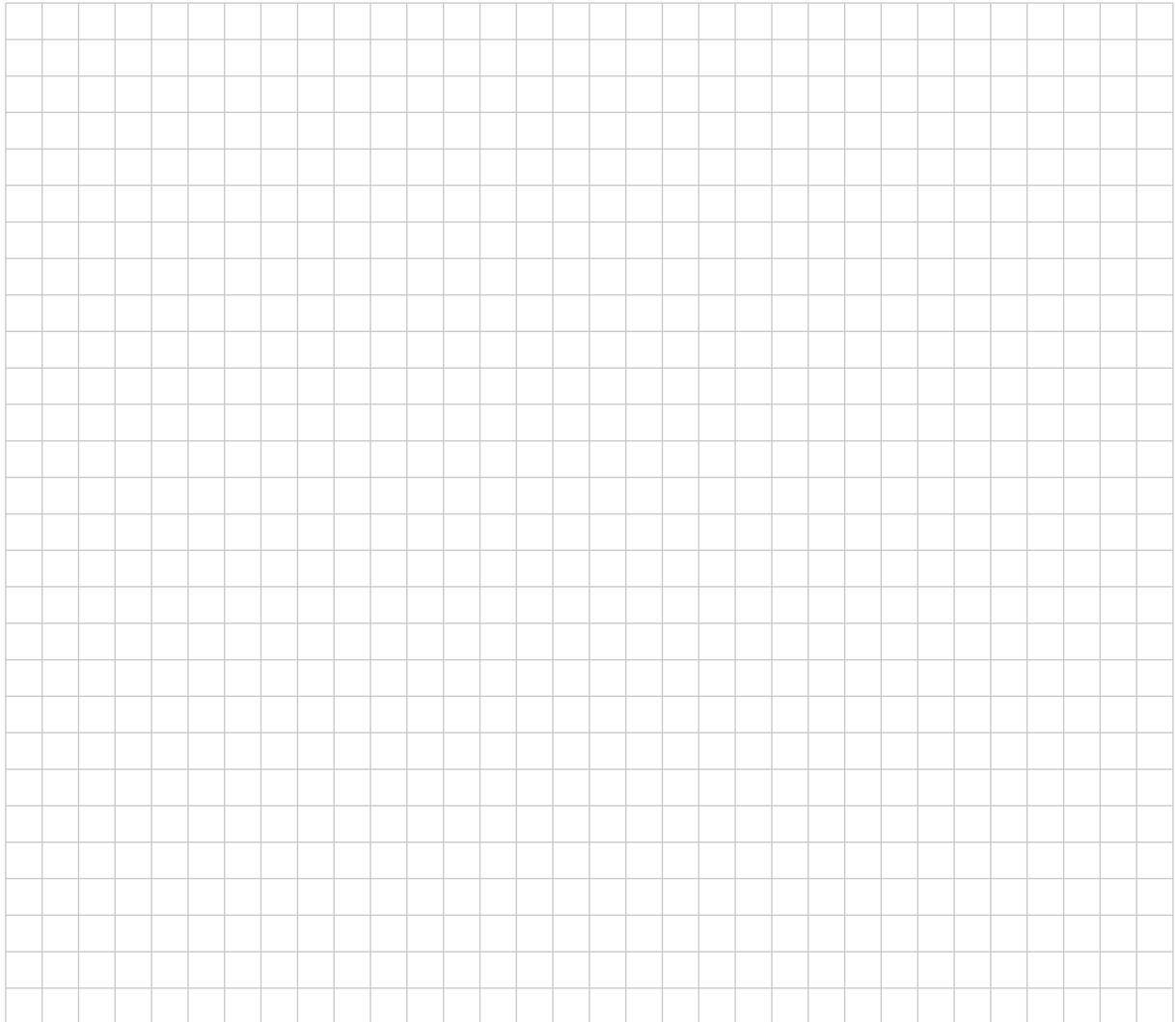**Question 5** (25 marks)

(a) Prove that $\tan(A + B) = \dfrac{\tan A + \tan B}{1 - \tan A \tan B}$.

(b) Find all the values of x for which $\sin(3x) = \dfrac{\sqrt{3}}{2}$, $0 \le x \le 360$, x in degrees.