

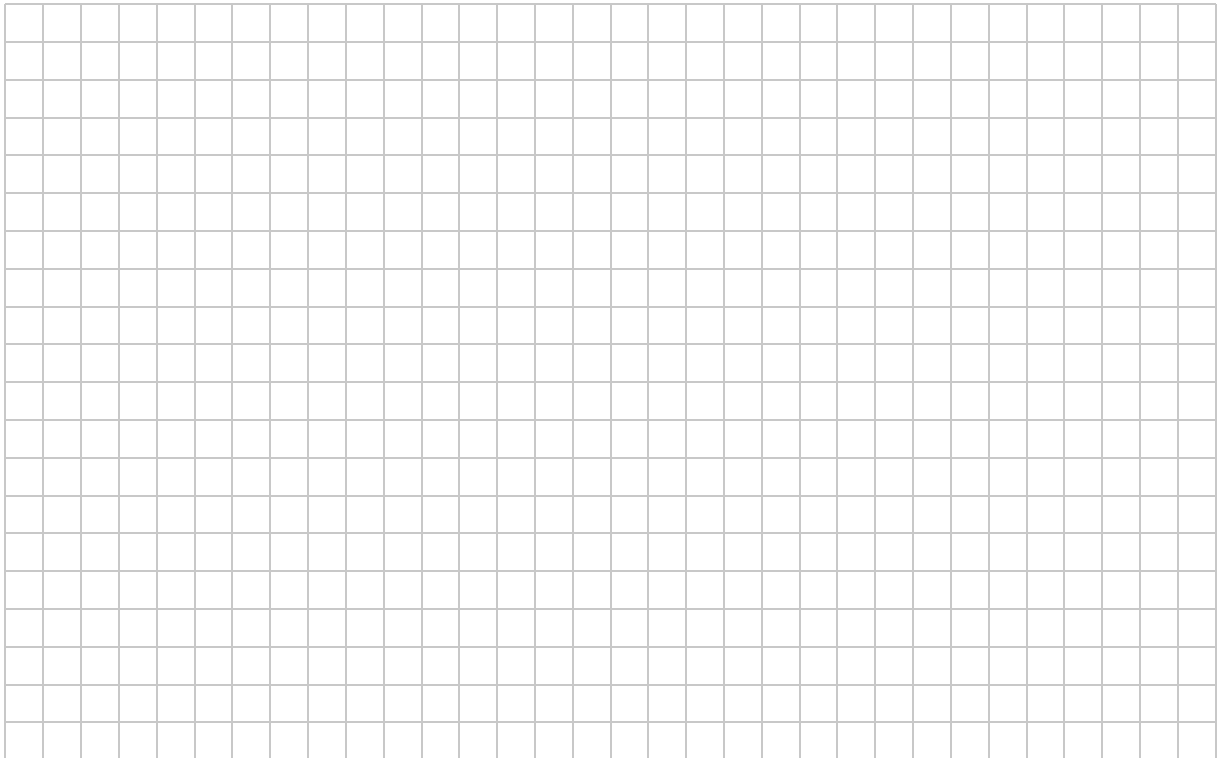
Question 3

(25 marks)

(a) Let $h(x) = \cos(2x)$, where $x \in \mathbb{R}$.

A tangent is drawn to the graph of $h(x)$ at the point where $x = \frac{\pi}{3}$.

Find the angle that this tangent makes with the positive sense of the x -axis.



(b) Find the average value of $h(x)$ over the interval $0 \leq x \leq \frac{\pi}{4}$, $x \in \mathbb{R}$.

Give your answer in terms of π .

