Problem 1

Let \( f(x) = \sin^2(10x) \). Give the equation of the tangent line at \( x = 0 \) and at \( x = \frac{\pi}{60} \).

Problem 2

Let \( g(x) = \csc(3x) \). Give the equation of the tangent line at \( x = \frac{\pi}{9} \).

NOTE: USE A COMPUTER FOR PROBLEMS 3 and 4.

Problem 3

Sketch a graph of \( f(x) \) (from problem 1) and graph the two tangent lines that you found.

Problem 4

Sketch a graph of \( g(x) \) (from problem 2) and graph the tangent line that you found.