

Question

The functions f and g are defined in the largest possible domain by the equations

$$f(x) = \arcsin(\cos x) \quad \text{and} \quad g(x) = \sqrt{\pi^2 - 4x^2}.$$

- a) Sketch the graphs of f and g on the same set of axes.
- b) Use an algebraic method to solve the equation

$$\arcsin(\cos x) = \sqrt{\pi^2 - 4x^2}.$$