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

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

$$\boxed{x=\pm\frac{\pi}{2}}$$