Exercise 1 (5 points)

Find $\delta > 0$ which satisfies $|f(x) - 2| < \frac{1}{2}$ when $|x - 1| < \delta$ where $f(x) = \frac{x + 1}{x}$

Exercise 2 (5 points)

Show that the equation $\cos x + x + 1 = 0$ has at least one real root.
Exercise 1 (5 points)

Find \( \delta > 0 \) which satisfies \( |f(x) - \frac{1}{2}| < \frac{1}{2} \) when \( |x - 2| < \delta \) where \( f(x) = \frac{x - 1}{x} \).

Exercise 2 (5 points)

Show that the equation \( \sin x + x + 1 = 0 \) has at least one real root.
Exercise 1 (5 points)

Find $\delta > 0$ which satisfies $|f(x) - 2| < \frac{1}{2}$ when $|x - 1| < \delta$ where $f(x) = \frac{4x - 2}{x}$

Exercise 1 (5 points)

Show that the equation $\tan x + x + 1 = 0$ has at least one real root.