1. Evaluate the limit if it exist. If the limit does not exist explain why?

$$\lim_{{x \to -2/3}} \frac{3x + 2}{6x + 4}$$

2. Consider the function $f(x) = \begin{cases} 2x^2 & \text{if } x \geq -1 \\ x + 2 & \text{if } x < -1 \end{cases}$

Find a number $\delta > 0$ so that if $0 < |x| < \delta$, then $|f(x) - L| < 0.01$
3. Evaluate \( \lim_{x \to 0^+} \arctan \left( \frac{x + \sqrt{x}}{\sqrt{x}} \right) \)

4. Show that there is a zero of the equation \( x^3 - 2x + 3 = 0 \) between \(-2\) and \(-1\).
   (What is the name of the Theorem you used here?)