King **F**ahd **U**niversity for **P**etroleum and **M**inerals
Department of Mathematics & Statistics
Term 161 Math 101 (9) Quiz#2 (2.4, 2.5 & 2.6)
Family Name: S.r#

Q1. Find the largest number δ such that $\left|\frac{2}{x}-1\right|<0.2$ if $0<|x-2|<\delta$

(**Show your steps** and write your answer in a rational form $\frac{p}{q}$)

Q2. Evaluate $\lim_{x\to-\infty}\left(x+\sqrt{x^2+2x}\right)$ if it exists or show that it is not.

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Department of Mathematics & Statistics
Term 161 Math 101 (17) Quiz#2 (2.4, 2.5 & 2.6)
Family Name: S.r#

Q1. Find the equation(s) of the horizontal asymptotes (if any) for $f(x) = 2^{-x} - 3^{-x} + 1$

Q2. Prove that $\lim_{x \to -1} (x + 3) = 2$ using the ε, δ definition.