King Fahd University of Petroleum and Minerals
Math. & Stat. Departement
QUIZ # 1

| Name | ID | SEC | Sr |
|---|---|---|---|

Q1) Evaluate each limit, if it exists.

a) $\lim_{x\to -1} \frac{x^2+2x+1}{x^4-1}$

b) $\lim_{x\to \frac{3}{2}} [\![2x+1]\!]$

c) $\lim_{x\to 2^+} \frac{x^2+x-6}{|x-2|}$

Q2) Find the largest possible positive number δ such that

$$|e^x - 1| < 0.1 \; whenever \; 0 < |x| < \delta$$

Q3) Find all vertical asymptotes of $f(x) = \frac{\ln(4-x^2)}{(x-1)(x-3)}$. Justify your answer by using limits.

Q4) Evaluate $\lim_{x \to 0^-} \left( x^2 sin\left(\frac{1}{x}\right) + \csc(x) \right)$