King **F**ahd **U**niversity for **P**etroleum and **M**inerals
Department of Mathematics & Statistics
Term 172 Quiz#1 (2.2 & 2.3) Math 101 (19)

Full Name: ID# **Ser#**

Q1. **Use limits** to determine whether or not $x = 0$ is a vertical asymptote of $f(x) = \frac{x^2+x}{x^3-6x^2}$.

Q2. Evaluate $\lim_{x \to -\sqrt{3}} \left[\!\left[\frac{1}{4-x^2} \right]\!\right]$ if it exists and **explain if it does not**. (where $[\![x]\!]$ is the greatest integer $\leq x$)

Form A

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Q1. **Use limits** to determine whether or not $x = 1$ is a vertical asymptote of $f(x) = \frac{x^2-2x+1}{4x^2+4x-8}$.

Q2. Evaluate $\lim_{x\to 0} \frac{x}{2-\sqrt{4+x}}$ if it exists and **explain if it does not**.

Form B