

Full Name: _____

ID# _____

Ser# _____

Q1. Using the $\varepsilon - \delta$ definition, prove the statement $\lim_{x \rightarrow -4} (1 - 3x) = 13$.

Q2. Find real α such that $f(x) = \begin{cases} \alpha^4 - 2x^2 & \text{if } x \leq 1 \\ x - 2\alpha^2 & \text{if } x > 1 \end{cases}$ is continuous.

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Q1. Using the $\varepsilon - \delta$ definition, prove the statement $\lim_{x \rightarrow -5} (1 - 3x) = 16$.

Q2. Find real α such that $f(x) = \begin{cases} \alpha^4 - 8x^2 & \text{if } x \leq 1/2 \\ 2x + 2\alpha^2 & \text{if } x > 1/2 \end{cases}$ is continuous.