

Full Name: _____

ID# _____

Ser# _____

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

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

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Q1. Using the $\varepsilon - \delta$ definition, prove the statement $\lim_{x \rightarrow 2/\pi} (1 + \pi x) = 3$.

Q2. Find real α such that $f(x) = \begin{cases} \alpha^4 - 2x^2 & \text{if } x \leq 3 \\ 2x - 2\alpha^2 & \text{if } x > 3 \end{cases}$ is continuous.