

King Fahd University of Petroleum and Minerals
Math. & Stat. Department
163-Math 101 Quiz (5)

Name	ID	SEC 12
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Q1) Find the absolute maximum value and the absolute minimum value of the

function $f(x) = \begin{cases} x^2 - 4x & \text{if } 0 \leq x < 5 \\ -x + 10 & \text{if } 5 \leq x \leq 6 \end{cases}$.

Q2) If $f(1) = 2$ and $f'(x) \geq 5$ for $1 \leq x \leq 5$. What is the possible smallest value that $f(5)$ can have?

Q3) Determine the intervals where $f(x) = \sqrt[3]{x}(2-x)$ concave upward and concave downward. Find inflection points.

Q4) Evaluate $\lim_{x \rightarrow 0^+} (1 - \tan^{-1} 2x)^{1/x}$.