Name	ID	SEC 12

Q1) Find the absolute maximum value and the absolute minimum value of the

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

Q2) If $f(1) = 2$ and $f'(x) \ge 5$ for $1 \le x \le 5$. 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 $\lim_{x \to 0^+} (1 - \tan^{-1} 2x)^{1/x}$.