| | Q1 | Q2 | Q3 | Q4 |
|---|---|---|---|---|
| **Mark** | | | | |

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## Question 1: (5 marks)

a) Solve for x, $\frac{6}{x-1} \geq 5$

b) Find domain and range of f(x) = 5 - $\sqrt[3]{x}$

**Question 2: (5 marks)**

a) Determine whether f(x) = $x^3 + 4x - \frac{5}{x}$ is even or odd.

b) Find domain and range of f(x) = $5 + \frac{1}{\sqrt{x-4}}$

**Question 3: (15 marks) Find the limit if it exists:**

a) $\lim_{x \to 4} \frac{\sqrt{x}-2}{x^2-16}$

b) $\lim_{x \to 2} \frac{|x-2|}{x^2+x-6}$

c) $\lim_{x \to -\infty} \frac{\sqrt{3x^2+2x+1}}{2x-3}$

**Question 4: (5 marks)** Find the value of constant k such that $\lim_{x \to -1} f(x)$ exist, where $f(x) = \begin{cases} kx - 3, & x > -1 \\ x^3 + k, & x < -1 \end{cases}$.

**انتهت الأسئلة**
**مع تمنياتنا لكم بالتوفيق والنجاح**