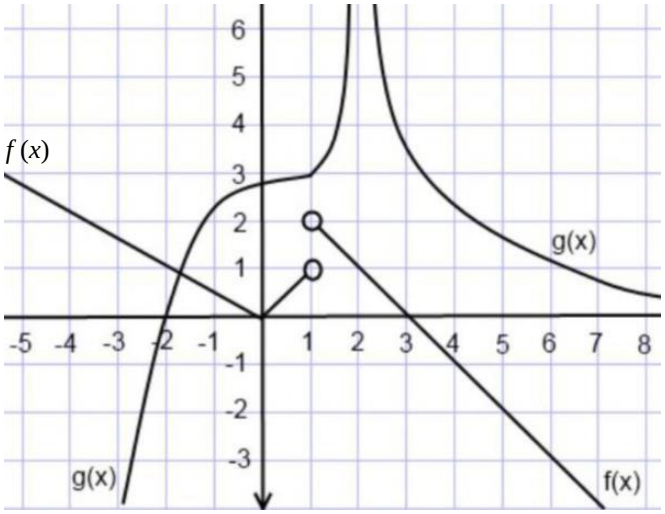
**Math 101-172-Sec.04**
**Quiz #1**

**Name:** **ID:** **SR:**

**Question1:** Use the graph to find the given limit if exists. Explain why?

a. $\lim_{x\to 0} g(x)$




b. $\lim_{x\to 1^+} (f(x) - g(x))$

c. $\lim_{x\to 1} [\![g(x)]\!]$, where $[\![x]\!]$, denotes the greatest integer function less than or equal $x$.

d. $\lim_{x\to 3^+} \frac{x-4}{f}$

**Question2:** let Find $\lim_{x\to 2} \left(\frac{\frac{1}{x^2}-\frac{1}{6x-8}}{x^3-8}\right)$ if exists.

**Question3:** Sketch the graph of an example of a function $f(x)$ that satisfies the following conditions:

$\lim_{x\to 2^+} f(x) = 4$, $\lim_{x\to 2^-} f(x) = 2$, $\lim_{x\to -3} f(x) = 2$, $f(2) = 3$, $f(-3) = 1$.