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Calculus Worksheet: Continuity of Functions(1)

1. Show that for function f defined by

$$f(x) = \begin{cases} \frac{x^3 - x^2}{x^2} & \text{if} \quad x \neq 0\\ -1 & \text{if} \quad x = 0 \end{cases}$$

a) f(0) is defined,

b) $\lim_{x\to 0} f(x)$ exists,

c) f is continuous at x = 0

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