

Last Name: SOLUTIONS

First Name: _____

Student ID: _____

Quiz 4 (A)

Question 1. (4 marks) Evaluate the following limit:

$$\lim_{z \rightarrow 2} \frac{z^3 - 8}{z - 2} = \lim_{z \rightarrow 2} \frac{(z/2)(z^2 + 2z + 4)}{z/2}$$

$$= \lim_{z \rightarrow 2} (z^2 + 2z + 4) = (2)^2 + 2(2) + 4 = 12$$

Question 2. (6 marks) Determine where the following function is continuous. Explain your answer.

$$f(x) = \begin{cases} -5x + 3 & \text{if } x < 0 \\ 4 & \text{if } x = 0 \\ 4x^2 - x + 3 & \text{if } x > 0 \end{cases}$$

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