

Quiz 01 – Version A

Name: _____

UID: _____

1. (5 points) Find the value of a that makes f continuous at $x = 2$:

$$f(x) = \begin{cases} 3x - 1, & x < 2, \\ ax^2 + 1, & x \geq 2. \end{cases}$$

Justify your answer using the one-sided limits and $f(2)$.

2. (5 points) Evaluate the limit. Show the algebra that justifies your answer.

$$\lim_{x \rightarrow 4} \frac{\sqrt{x+5} - 3}{x - 4}.$$