Quiz 5
Nov. 1, 2006

1. (10 pts) Determine the value of a that makes the given function continuous (on $(-\infty, \infty)$).

$$f(x) = \begin{cases} ae^x + 1 & \text{if } x < 0 \\ x^2 + x - 1 & \text{if } x \geq 0 \end{cases}$$

2. (10 pts) Determine the following limits (answer as appropriate, with a number, $-\infty$, ∞ or does not exist).

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$$\lim_{x \to 2} \frac{x^2}{4 - x^2}$$

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$$\lim_{x \to \infty} \frac{x^2}{4 - x^2}$$