

# Calculus I TA Session (Summer Session)

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1. 111 M1 (17-19) Midterm Problem 2 Calculate the following limit.

$$\lim_{x \rightarrow 3} \frac{x^2 - 9}{x^2 + x - 12} \quad \text{and} \quad \lim_{x \rightarrow \infty} x \left( \sqrt{x^2 + 1} - x \right)$$

2. 108 B Quiz Problem 3

- (a)  $\lim_{x \rightarrow 1} \frac{\sqrt{x+3}-2}{x-1}$
- (b)  $\lim_{x \rightarrow 0} (\tan 2x) \cdot (\csc 3x)$
- (c)  $\lim_{x \rightarrow -\infty} \frac{x}{\sqrt{2x^2+1}}$
- (d)  $\lim_{x \rightarrow 0^+} \sin\left(\frac{1}{x}\right) + \sin x$