Calculus I TA Session

September 7, 2023

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

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

2. 108 B Quiz Problem 3

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

Refer to NTU Calculus website.