14th May 2024

Class Work 1.

(a) $\lim_{x \to c} (2x+5)$

(b) $\lim_{t \to 6} 8(t-5)(t-7)$

(c) $\lim_{x \to 2} \frac{x+3}{x+6}$

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Class Work 2

(a) $\lim_{x \to \infty} \frac{x^3+3x+6}{x^5+2x^2+9}$

(b) $\lim_{x \to +\infty} \frac{2x^2-2x+3}{x^2+4x+4}$

(c) $\lim_{x \to -5} \frac{x^2+3x-5}{x+1}$

(d) $\lim_{x \to 2} \frac{x+3}{x+6}$

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Class Work 3

(1) $\lim_{x \to 5} \frac{2x^2 - 7x - 15}{x - 5}$

(2) $\lim_{x \to 1} \frac{x^3 - 1}{x - 1}$

Class Work 4 : 14th May 2024

(a) $\lim_{x \to 2} \frac{x+2}{\sqrt{x+6}-2}$ (b) $\lim_{x \to -1} \frac{\sqrt{x+10}-3}{x+1}$

Classwork 5 : 17th May 2024

Determine the limit (if it exist).

(a) $\lim_{\theta \to 0} \frac{\sec\theta - 1}{\theta \sec\theta}$

(b) $\lim_{x \to 0} \frac{\sin^2 x}{x}$

(c) $\lim_{x \to 0} \frac{\sin 2x}{\sin 3x}$

(d) $\lim_{x \to 0} \frac{\tan^2 x}{x}$

Class Work 6 : 27th May 2024 Monday

1. Determine if the series $\sum_{n=1}^{\infty} \frac{n!}{n^n}$ converges.

2. Determine if the series $\sum_{n=1}^{\infty} \frac{n^2}{(n!)^2}$ converges.