Part 2

Limits

Question 2.1. Find the limit.

$$\lim_{t \to -1} \frac{t^2 + 3t + 2}{t^2 - t - 2}$$

Question 2.2. Find the limit.

$$\lim_{x \to -2} \frac{-2x - 4}{x^3 + 2x^2}$$

Question 2.3. Find the limit.

$$\lim_{x \to 1} \frac{x^{-1} - 1}{x - 1}$$

Question 2.4. Find the limit.

$$\lim_{x \to 0} \frac{\frac{1}{x-1} + \frac{1}{x+1}}{x}$$

Question 2.5. Find the limit.

$$\lim_{x \to -1} \frac{\sqrt{x^2 + 8} - 3}{x + 1}$$

Question 2.6. Find the limit.

$$\lim_{x\to\infty} \sqrt{\frac{8x^2-3}{2x^2+x}}$$

Question 2.7. Find the limit.

$$\lim_{x\to\infty} \frac{2\sqrt{x} + x^{-1}}{3x - 7}$$

Question 2.8. Find the limit.

$$\lim_{x \to -\infty} \frac{x^{1/3} - 5x + 3}{2x + x^{2/3} - 4}$$

Question 2.9. Find the limit.

$$\lim_{x \to -\infty} \frac{4 - 3x^3}{\sqrt{x^6 + 9}}$$

Question 2.10. Find the limit.

$$\lim_{x \to 0} \frac{\sin 5x}{x}$$

Question 2.11. Find the limit.

$$\lim_{x \to 0} \frac{8x^2}{\cos x - 1}$$

Question 2.12. Find the limit.

$$\lim_{\theta \to \pi/2} \frac{1 - \sin\theta}{1 + \cos 2\theta}$$

Question 2.13. Find the limit.

$$\lim_{t\to\infty} \frac{e^t + t^2}{e^t - t}$$