

MCS21 Homework 4

1. $\lim_{x \rightarrow \infty} \frac{2x^2 - x}{3x^2 + 1} =$

2. $\lim_{x \rightarrow \infty} \frac{x + 1}{x^2 + 3} =$

3. $\lim_{x \rightarrow \infty} \frac{x^3 - 4x + 1}{3x^3 + 2x + 7} =$

4. $\lim_{t \rightarrow \infty} \frac{t^2 - 2t + 3}{2t^2 + 5t - 3} =$

5. $\lim_{x \rightarrow \infty} \frac{x}{x - 1} =$

6. $\lim_{x \rightarrow -\infty} |x| =$

7. $\lim_{a \rightarrow \infty} \frac{|a|}{|a| + 1} =$

8. $\lim_{x \rightarrow \infty} \frac{3x^3 + 5x^2 - 7}{10x^3 - 11x + 5} =$

9. $\lim_{x \rightarrow \infty} \left(\frac{x}{x+1} \right) \left(\frac{x^2}{5+x^2} \right) =$

10. $\lim_{n \rightarrow \infty} \frac{8n^2 + 7n}{4n^2} =$

11. $\lim_{y \rightarrow \infty} \frac{y^4}{y^4 - 7y^3 + 7y^2 + 9} =$

12. $\lim_{x \rightarrow \infty} \frac{x - 3}{x^2 - 5x + 4} =$

13. $\lim_{x \rightarrow \infty} \frac{-2x^3 - 2x + 3}{3x^3 + 3x^2 - 5x} =$

14. $\lim_{x \rightarrow -\infty} \frac{-2x^3 - 2x + 3}{3x^3 + 3x^2 - 5x} =$

15. $\lim_{x \rightarrow \infty} \frac{x^3 + 2x - 4}{x^2 + 8x} =$

16. $\lim_{x \rightarrow \infty} \frac{x + 3}{x^3 - 5} =$

17. $\lim_{x \rightarrow -\infty} \frac{x + 3}{x^3 - 5} =$

18. $\lim_{x \rightarrow \infty} \frac{x^3 - 4x + 3}{3x^3 + 2x - 11} =$

19. $\lim_{x \rightarrow \infty} \frac{3 - 2x^4}{x + 5} =$

20. $\lim_{x \rightarrow -\infty} \frac{3 - 2x^4}{x + 5} =$

21. $\lim_{x \rightarrow \infty} \frac{8x^3 + 5x - 2}{3x^2 + x + 1} =$

22. $\lim_{x \rightarrow -\infty} \frac{8x^3 + 5x - 2}{3x^2 + x + 1} =$