

CALCULUS I

Name: _____

WORKSHEET

Find the limits.

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

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

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

4. $\lim_{x \rightarrow \infty} \frac{2x^2-x+5}{5x^2+6x-1} =$

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

6. $\lim_{x \rightarrow \infty} \frac{3x^3-x+1}{6x^3+2x^2-7} =$

7. $\lim_{x \rightarrow \infty} \frac{-3x^3-6x^2+4x-3}{-2x^2+5x} =$

8. $\lim_{x \rightarrow \infty} \frac{(3x-2)(2x+4)}{(2x+1)(x+2)} =$

9. $\lim_{x \rightarrow \infty} \frac{(-3x-1)(-2x+4)(-5x-3)}{(-6x-1)(-2x+3)} =$

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

11. $\lim_{x \rightarrow \infty} \frac{(2x+1)^2}{(x-3)(x+5)} =$

12. $\lim_{x \rightarrow \infty} \frac{3x\sqrt{x}+3x+1}{x^2-x+11} =$

13. $\lim_{x \rightarrow \infty} \frac{3x^{-2}+6x^{-6}}{5x^{-3}} =$

14. $\lim_{x \rightarrow \infty} \frac{\frac{1}{5} - \frac{3}{x^2}}{\frac{x}{6} + \frac{1}{x^4}} =$

15. $\lim_{x \rightarrow \infty} \frac{\sqrt[3]{x} + \sqrt{x}}{\sqrt{x} - \sqrt[4]{x}} =$

16. $\lim_{x \rightarrow \infty} (3-x^3) =$

17. $\lim_{x \rightarrow \infty} \left(-\frac{5}{x} + 6 \right) =$

18. $\lim_{x \rightarrow \infty} \left(\frac{4x-1}{5x+3} - \frac{-3x-4}{5x-1} + \frac{7x}{2x^2+1} \right) =$

19. $\lim_{x \rightarrow \infty} \left(\frac{3x^2-2x+5}{5x^3-7x+6} \cdot \frac{8x^2-6}{3x^3+1} \right) =$

20. $\lim_{x \rightarrow \infty} \frac{\left(\frac{5x-3}{2x+4} \right)}{\left(\frac{10x+6}{6x-2} \right)} =$