

$$1. \lim_{x \rightarrow -3} \frac{2x^2 + 11x + 15}{3x^2 + 5x - 12}.$$

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

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

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

$$9. \lim_{x \rightarrow -1} \frac{x^2 - 1}{x^2 + 3x + 2}.$$

$$11. \lim_{x \rightarrow -5} \frac{4x^2 + 19x - 5}{2x^2 + 11x + 5}.$$

$$13. \lim_{x \rightarrow 1} \frac{x^2 - 2x + 1}{2x^2 - 7x + 5}.$$

$$15. \lim_{x \rightarrow -2} \frac{9x^2 + 17x - 2}{x^2 + 2x}.$$

$$17. \lim_{x \rightarrow 0} \frac{4x^3 - 2x^2 + 5x}{3x^2 + 7x}.$$

$$19. \lim_{x \rightarrow 3} \frac{3x^2 + 5x - 1}{x^2 - 5x + 6}.$$

$$21. \lim_{x \rightarrow 4} \frac{x^2 + 3x - 28}{x^3 - 64}.$$

$$23. \lim_{x \rightarrow 4} \frac{x^2 + 3x - 28}{x^2 - 4x}.$$

$$25. \lim_{x \rightarrow -2} \frac{x^2 - 4}{3x^2 + x - 10}.$$

$$27. \lim_{x \rightarrow 6} \frac{2x^2 - 11x - 6}{3x^2 - 20x + 12}.$$

$$29. \lim_{x \rightarrow 2} \frac{x^3 - 2x - 4}{x^2 - 11x + 18}.$$

$$2. \lim_{x \rightarrow 1} \frac{2x^2 + 5x - 10}{x^3 - 1}.$$

$$4. \lim_{x \rightarrow 2} \frac{3x^2 + 2x + 1}{x^3 - 8}.$$

$$6. \lim_{x \rightarrow 1} \frac{2x^2 - 3x - 1}{x^4 - 1}.$$

$$8. \lim_{x \rightarrow -2} \frac{x^2 + 2x}{x^2 + 4x + 4}.$$

$$10. \lim_{x \rightarrow -4} \frac{2x^2 + 7x - 4}{x^3 + 64}.$$

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

$$14. \lim_{x \rightarrow 2} \frac{x^3 - 8}{2x^2 - 9x + 10}.$$

$$16. \lim_{x \rightarrow 1} \frac{x^3 + x - 2}{x^3 - x^2 - x + 1}.$$

$$18. \lim_{x \rightarrow 1} \frac{4x^4 - 5x^2 + 1}{x^2 - 1}.$$

$$20. \lim_{x \rightarrow -5} \frac{x^2 - x - 30}{x^3 + 125}.$$

$$22. \lim_{x \rightarrow 1/2} \frac{8x^3 - 1}{x^2 - 1/4}.$$

$$24. \lim_{x \rightarrow -2} \frac{3x^2 + 11x + 10}{x^2 - 5x + 14}.$$

$$26. \lim_{x \rightarrow 0} \frac{3x^2 + x}{4x^2 - 5x + 1}.$$

$$28. \lim_{x \rightarrow -6} \frac{x^2 + 2x - 24}{2x^3 + 15x + 18}.$$

$$30. \lim_{x \rightarrow 4} \frac{x^3 - 64}{7x^2 - 27x - 4}.$$

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

3.
$$\lim_{x \rightarrow -\infty} \frac{3x^2 + 7x - 4}{x^5 + 2x - 1}.$$

5.
$$\lim_{x \rightarrow \infty} \frac{2x^3 + 7x - 1}{3x^4 + 2x + 5}.$$

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

9.
$$\lim_{x \rightarrow -\infty} \frac{7x^2 + 5x + 9}{1 + 4x - x^3}.$$

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

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

6.
$$\lim_{x \rightarrow -\infty} \frac{2x^3 + 7x^2 + 4}{x^4 + 5x - 1}.$$

8.
$$\lim_{x \rightarrow \infty} \frac{x^7 + 5x^2 - 4x}{3x^2 + 11x - 7}.$$

10.
$$\lim_{x \rightarrow \infty} \frac{3x^4 + x^2 - 6}{2x^2 + 3x + 1}.$$

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

13. $\lim_{x \rightarrow -1} \frac{5x^3 - 3x^2 + 7}{2x^4 + 3x^2 + 1}$

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

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

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

21. $\lim_{x \rightarrow -\infty} \frac{8x^5 - 4x^3 + 3}{2x^3 + x - 7}$

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

25. $\lim_{x \rightarrow -\infty} \frac{3x^4 + 2x^2 - 8}{8x^3 - 4x + 5}$

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

29. $\lim_{x \rightarrow -\infty} \frac{2x^2 + 10x - 11}{3x^4 - 2x + 5}$

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

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

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

18. $\lim_{x \rightarrow \infty} \frac{8x^2 + 3x + 5}{4x^3 - 2x^2 + 1}$

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

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

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

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

28. $\lim_{x \rightarrow \infty} \frac{4x^3 + 5x^2 - 3x}{3x^2 + x - 10}$

30. $\lim_{x \rightarrow \infty} \frac{7x^3 + 3x - 4}{2x^2 - 5x + 1}$

1. $\lim_{x \rightarrow \infty} \frac{2x^2 + 3x - 5}{7x^3 - 2x^2 + 1}$

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

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

7. $\lim_{x \rightarrow \infty} \frac{2x^2 - 5x + 2}{x^4 + 3x^2 - 9}$

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

11. $\lim_{x \rightarrow \infty} \frac{7x^5 + 6x^4 - x^3}{2x^2 + 6x + 1}$

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

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

17. $\lim_{x \rightarrow \infty} \frac{10x - 7}{3x^4 + 2x^3 + 1}$

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

4. $\lim_{x \rightarrow -\infty} \frac{2x^2 - x + 7}{3x^4 - 5x^2 + 10}$

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

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

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

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

14. $\lim_{x \rightarrow \infty} \frac{8x^4 + 7x^3 - 3}{3x^2 - 5x + 1}$

16. $\lim_{x \rightarrow -\infty} \frac{2x^3 - 3x + 1}{7x + 5}$

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

19. $\lim_{x \rightarrow \infty} \frac{5x + 3}{x^3 - 4x^2 - x}$.
 20. $\lim_{x \rightarrow -\infty} \frac{3x^4 + 5x}{2x^2 - 3x - 7}$.
 21. $\lim_{x \rightarrow \infty} \frac{2x^2 - 5x + 3}{3x^4 - 2x^2 + x}$.
 22. $\lim_{x \rightarrow -\infty} \frac{2x^5 - x^3}{4x^2 + 3x - 6}$.
 23. $\lim_{x \rightarrow \infty} \frac{3x + 1}{x^3 - 5x^2 + 4x}$.
 24. $\lim_{x \rightarrow -\infty} \frac{2 - x - 3x^2}{x^3 - 16}$.
 25. $\lim_{x \rightarrow \infty} \frac{4x^2 - 10x + 7}{2x^3 - 3x}$.
 26. $\lim_{x \rightarrow -\infty} \frac{2x^3 - 3x + 1}{x^5 + 4x^3}$.
 27. $\lim_{x \rightarrow \infty} \frac{2x - 13}{x^7 - 3x^5 - 4x}$.
 28. $\lim_{x \rightarrow -\infty} \frac{2x^2 - 3x + 1}{x^3 + 2x^2 + 5}$.
 29. $\lim_{x \rightarrow \infty} \frac{x^3 - 81}{3x^2 + 4x + 2}$.
 30. $\lim_{x \rightarrow -\infty} \frac{7x + 4}{3x^3 - 5x + 1}$.

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1. $\lim_{x \rightarrow 3} \frac{x^2 + x - 12}{\sqrt{x - 2} - \sqrt{4 - x}}$.
 2. $\lim_{x \rightarrow -4} \frac{\sqrt{x + 12} - \sqrt{4 - x}}{x^2 + 2x - 8}$.
 3. $\lim_{x \rightarrow -3} \frac{\sqrt{x + 10} - \sqrt{4 - x}}{2x^2 - x - 21}$.
 4. $\lim_{x \rightarrow -2} \frac{\sqrt{2 - x} - \sqrt{x + 6}}{x^2 - x - 6}$.
 5. $\lim_{x \rightarrow 1} \frac{\sqrt{3 + 2x} - \sqrt{x + 4}}{3x^2 - 4x + 1}$.
 6. $\lim_{x \rightarrow 2} \frac{x^2 - 3x + 2}{\sqrt{5 - x} - \sqrt{x + 1}}$.
 7. $\lim_{x \rightarrow -1} \frac{3x^2 + 4x + 1}{\sqrt{x + 3} - \sqrt{5 + 3x}}$.
 8. $\lim_{x \rightarrow 4} \frac{2x^2 - 9x + 4}{\sqrt{5 - x} - \sqrt{x - 3}}$.
 9. $\lim_{x \rightarrow 5} \frac{\sqrt{2x + 1} - \sqrt{x + 6}}{2x^2 - 7x - 15}$.
 10. $\lim_{x \rightarrow -5} \frac{\sqrt{3x + 17} - \sqrt{2x + 12}}{x^2 + 8x + 15}$.
 11. $\lim_{x \rightarrow 0} \frac{\sqrt{x^2 + 2} - \sqrt{2}}{\sqrt{x^2 + 1} - 1}$.
 12. $\lim_{x \rightarrow 0} \frac{\sqrt{7 - x} - \sqrt{7 + x}}{\sqrt{7x}}$.
 13. $\lim_{x \rightarrow 0} \frac{3x}{\sqrt{1 + x} - \sqrt{1 - x}}$.
 14. $\lim_{x \rightarrow 4} \frac{\sqrt{2x + 1} - 3}{\sqrt{x - 2} - \sqrt{2}}$.
 15. $\lim_{x \rightarrow -1} \frac{\sqrt{5 + x} - 2}{\sqrt{8 - x} - 3}$.
 16. $\lim_{x \rightarrow 5} \frac{\sqrt{x + 4} - 3}{\sqrt{x - 1} - 2}$.
 17. $\lim_{x \rightarrow 7} \frac{\sqrt{x - 3} - 2}{\sqrt{x + 2} - 3}$.
 18. $\lim_{x \rightarrow 3} \frac{\sqrt{4x - 3} - 3}{x^2 - 9}$.
 19. $\lim_{x \rightarrow 3} \frac{\sqrt{5x + 1} - 4}{x^2 + 2x - 15}$.
 20. $\lim_{x \rightarrow 0} \frac{2 - \sqrt{x^2 + 4}}{3x^2}$.

$$21. \lim_{x \rightarrow 0} \frac{\sqrt{x^2+4}-2}{\sqrt{x^2+16}-4}.$$

$$23. \lim_{x \rightarrow 9} \frac{\sqrt{2x+7}-5}{3-\sqrt{x}}.$$

$$25. \lim_{x \rightarrow 3} \frac{x^3-27}{\sqrt{3x-x}}.$$

$$27. \lim_{x \rightarrow -4} \frac{\sqrt{x+20}-4}{x^3+64}.$$

$$29. \lim_{x \rightarrow 0} \frac{\sqrt{9+x}-3}{x^2+x}.$$

$$22. \lim_{x \rightarrow 0} \frac{3x}{\sqrt{5-x}-\sqrt{5+x}}$$

$$24. \lim_{x \rightarrow 4} \frac{2-\sqrt{x}}{\sqrt{6x+1}-5}.$$

$$26. \lim_{x \rightarrow 0} \frac{\sqrt{1+3x^2}-1}{x^3+x^2}.$$

$$28. \lim_{x \rightarrow 1} \frac{3x^2-2}{\sqrt{8+x}-3}.$$

$$30. \lim_{x \rightarrow 2} \frac{\sqrt{4x+1}-3}{x^3-8}$$

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$$1. \lim_{x \rightarrow \infty} \left(\frac{x+4}{x+8}\right)^{-3x}.$$

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

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

$$7. \lim_{x \rightarrow \infty} \left(\frac{x+2}{x+1}\right)^{1+2x}.$$

$$9. \lim_{x \rightarrow \infty} \left(\frac{2x}{2x-3}\right)^{3x}.$$

$$11. \lim_{x \rightarrow \infty} \left(\frac{x-1}{x+4}\right)^{3x+2}.$$

$$13. \lim_{x \rightarrow \infty} \left(\frac{x-2}{x+1}\right)^{2x-3}.$$

$$15. \lim_{x \rightarrow \infty} \left(\frac{3x-4}{3x+2}\right)^{2x}.$$

$$17. \lim_{x \rightarrow \infty} \left(\frac{2x-4}{2x}\right)^{-3x}.$$

$$19. \lim_{x \rightarrow \infty} \left(\frac{x-7}{x+1}\right)^{4x-2}$$

$$21. \lim_{x \rightarrow \infty} \left(\frac{2-3x}{5-3x}\right)^{x'}.$$

$$23. \lim_{x \rightarrow \infty} \left(\frac{4x-1}{4x+1}\right)^{2x}.$$

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

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

$$6. \lim_{x \rightarrow \infty} \left(\frac{x+3}{x}\right)^{-5x}.$$

$$8. \lim_{x \rightarrow \infty} \left(\frac{x+3^x}{x-1}\right)^{x-4}.$$

$$10. \lim_{x \rightarrow \infty} \left(\frac{x-7}{x}\right)^{2x+1}.$$

$$12. \lim_{x \rightarrow \infty} \left(\frac{2x+1}{2x-1}\right)^{x+2}.$$

$$14. \lim_{x \rightarrow \infty} \left(\frac{x}{x-3}\right)^{x-5}.$$

$$16. \lim_{x \rightarrow \infty} \left(\frac{2x-1}{2x+4}\right)^{3x-1}.$$

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

$$20. \lim_{x \rightarrow \infty} \left(\frac{x+2}{x}\right)^{3-2x}.$$

$$22. \lim_{x \rightarrow \infty} \left(\frac{1-x}{2-x}\right)^{3x}.$$

$$24. \lim_{x \rightarrow \infty} \left(\frac{3x+4}{3x}\right)^{-2x}.$$

$$25. \lim_{x \rightarrow \infty} \left(\frac{2x-1}{2x+4} \right)^{-x}$$

$$27. \lim_{x \rightarrow \infty} \left(\frac{1+2x}{3+2x} \right)^{-x}$$

$$29. \lim_{x \rightarrow \infty} \left(\frac{x}{x-1} \right)^{3-2x}$$

$$26. \lim_{x \rightarrow \infty} \left(\frac{3x+4}{3x+5} \right)^{x+1}$$

$$28. \lim_{x \rightarrow \infty} \left(\frac{3x}{3x+2} \right)^{x-2}$$

$$30. \lim_{x \rightarrow \infty} \left(\frac{4-2x}{1-2x} \right)^{x+1}$$

6

$$1.1. \lim_{x \rightarrow \infty} \left(\frac{2x+3}{5x+7} \right)^{x+1}$$

$$1.3. \lim_{x \rightarrow \infty} \left(\frac{x+1}{2x-1} \right)^{3x}$$

$$1.5. \lim_{x \rightarrow \infty} \left(\frac{5x+8}{x-2} \right)^{x+4}$$

$$1.7. \lim_{x \rightarrow -\infty} \left(\frac{2x+1}{x-1} \right)^{4x}$$

$$1.9. \lim_{x \rightarrow -\infty} \left(\frac{x+3}{2x-4} \right)^{x+2}$$

$$1.11. \lim_{x \rightarrow \infty} \left(\frac{5x-3}{x+4} \right)^{x+3}$$

$$1.13. \lim_{x \rightarrow -\infty} \left(\frac{x-5}{3x+4} \right)^{2x}$$

$$1.15. \lim_{x \rightarrow -\infty} \left(\frac{x-2}{3x+1} \right)^{5x}$$

$$1.17. \lim_{x \rightarrow \infty} \left(\frac{x-2}{3x+10} \right)^{3x}$$

$$1.19. \lim_{x \rightarrow -\infty} \left(\frac{x+3}{3x-1} \right)^{2x}$$

$$21. \lim_{x \rightarrow -\infty} \left(\frac{3x+7}{x+4} \right)^{4x}$$

$$23. \lim_{x \rightarrow -\infty} \left(\frac{5x-7}{x+6} \right)^{2x}$$

$$25. \lim_{x \rightarrow \infty} \left(\frac{1-2x}{3-x} \right)^{-x}$$

$$27. \lim_{x \rightarrow -\infty} \left(\frac{3x-1}{2x+5} \right)^{3x}$$

$$29. \lim_{x \rightarrow \infty} \left(\frac{5+x}{9x-4} \right)^{2x}$$

$$1.2. \lim_{x \rightarrow \infty} \left(\frac{2x+1}{x-1} \right)^x$$

$$1.4. \lim_{x \rightarrow -\infty} \left(\frac{2x-1}{4x+1} \right)^{3x-1}$$

$$1.6. \lim_{x \rightarrow -\infty} \left(\frac{x+1}{3x-1} \right)^{2x+1}$$

$$1.8. \lim_{x \rightarrow \infty} \left(\frac{x+1}{2x-1} \right)^{5x}$$

$$1.10. \lim_{x \rightarrow -\infty} \left(\frac{2x+1}{3x-1} \right)^{x-1}$$

$$1.12. \lim_{x \rightarrow -\infty} \left(\frac{2x-3}{7x+4} \right)^x$$

$$1.14. \lim_{x \rightarrow \infty} \left(\frac{x+3}{4x-5} \right)^{2x}$$

$$1.16. \lim_{x \rightarrow -\infty} \left(\frac{3x-4}{x+6} \right)^{x-1}$$

$$1.18. \lim_{x \rightarrow -\infty} \left(\frac{2x-3}{x+4} \right)^{6x+1}$$

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

$$22. \lim_{x \rightarrow \infty} \left(\frac{x-1}{4x+5} \right)^{3x}$$

$$24. \lim_{x \rightarrow \infty} \left(\frac{3-4x}{2-x} \right)^{6x}$$

$$26. \lim_{x \rightarrow -\infty} \left(\frac{4+3x}{5+x} \right)^{7x}$$

$$28. \lim_{x \rightarrow \infty} \left(\frac{1-x}{2-10x} \right)^{5x}$$

$$30. \lim_{x \rightarrow -\infty} \left(\frac{x+5}{4x-2} \right)^{3x}$$

$$1. \lim_{x \rightarrow \infty} \frac{4x^6 - 5x + 6}{x^6 - 12x^2 + 20};$$

$$2. \lim_{x \rightarrow \infty} \frac{40x^2 - 2x + 1}{25x^2 + x - 1};$$

$$3. \lim_{x \rightarrow \infty} \frac{2x^6 - 3x^4 + 6}{3x^6 + 2x^2 + 10};$$

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

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

$$6. \lim_{x \rightarrow \infty} \frac{3x^3 + 4x}{8x^3 - 4x^2 + 5};$$

$$7. \lim_{x \rightarrow \infty} \frac{100x^3 + 4x - 5}{4x^3 - x^2 - 3x};$$

$$8. \lim_{x \rightarrow \infty} \frac{2x^5 - 5x^3 + 8}{x^5 + 2x^4 + 7};$$

$$9. \lim_{x \rightarrow \infty} \frac{7x^3 - 2x^2 - 4x}{2x^3 + 8x^2 - x + 5};$$

$$10. \lim_{x \rightarrow \infty} \frac{-x^4 + 5x^2 + 6}{4x^4 + 2x^2 + 3};$$

$$11. \lim_{x \rightarrow \infty} \frac{x^3 + 9}{6x^3 + 10x^2 + 5};$$

$$12. \lim_{x \rightarrow \infty} \frac{x^4 + 15x^2 + 11}{3x^4 - 2x^2 + 2};$$

$$13. \lim_{x \rightarrow \infty} \frac{x^6 + 5}{45x^6 + x^2 + 2x};$$

$$14. \lim_{x \rightarrow \infty} \frac{10x^5 + 4x^3 - 5}{3x^5 - x^4 - 3x};$$

$$15. \lim_{x \rightarrow \infty} \frac{x^2 - 9x + 2}{2x^2 + 5x - 3};$$

$$16. \lim_{x \rightarrow \infty} \frac{x^3 - 5x^2 - 5}{x^3 + x^2 - 3x};$$

$$17. \lim_{x \rightarrow \infty} \frac{x^3 + 8}{x^3 + 40x^2 - 3x};$$

$$18. \lim_{x \rightarrow \infty} \frac{x^4 + 3x^3 + 1}{x^4 + x^2 + 3x};$$

$$19. \lim_{x \rightarrow \infty} \frac{x^2 + 2x + 1}{2x^2 + x};$$

$$20. \lim_{x \rightarrow \infty} \frac{5x^3 - x^2 + 1}{7x^3 + 2x^2 + 3x};$$

$$21. \lim_{x \rightarrow \infty} \frac{x^6 + 2x^2 + 5x + 1}{5x^6 + x^2 + 2x};$$

$$22. \lim_{x \rightarrow \infty} \frac{9x^2 + 6x + 1}{2x^2 + 8x - 3};$$

**Замечание для задачи 1. Варианты 12,16,18
вычисляют пределы записанные ниже:**

$$1.12 \lim_{x \rightarrow -3} \frac{x^2 + 2x - 3}{4x^2 + 11x - 3};$$

$$1.16 \lim_{x \rightarrow 2} \frac{x^2 + 3x - 10}{2x^2 - 9x + 10};$$

$$1.18 \lim_{x \rightarrow 3} \frac{2x^2 - 5x - 3}{3x^2 - 11x + 6};$$