

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

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

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

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

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

$$6. \lim_{x \rightarrow 3} \frac{x^3-27}{x^2-8x+15}$$

$$7. \lim_{x \rightarrow 2} \frac{x^3-x^2-8x+12}{x^3-3x^2+4}$$

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

$$9. \lim_{x \rightarrow \infty} (\sqrt{x^2+2x}-x)$$

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

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

$$12. \lim_{x \rightarrow 3} x^4$$

$$13. \lim_{x \rightarrow 5} x^{-3}$$

$$14. \lim_{x \rightarrow 2} \frac{x^2+x+1}{x^2+5}$$

$$15. \lim_{x \rightarrow 1} \frac{x^3-1}{x-1}$$

$$16. \lim_{x \rightarrow 0} \frac{x}{1-\sqrt{1-x}}$$

$$17. \lim_{x \rightarrow 0} \frac{\sqrt{a+x}-\sqrt{a}}{x}$$

$$18. \lim_{x \rightarrow 0} \frac{x^3-1}{x-1}$$

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

$$20. \lim_{x \rightarrow 1} \left(\frac{1}{x} + (x^2+1) \right)$$

$$21. \lim_{x \rightarrow 1} \left(\frac{1}{x} \cdot (x^2+1) \right)$$

$$22. \lim_{x \rightarrow 1} \left(\frac{1}{x} : (x^2+1) \right)$$

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

$$24. \lim_{x \rightarrow \infty} (\sqrt{x^2+1} - x)$$

$$25. \lim_{x \rightarrow \infty} (\sqrt{x^2+3x-1} - x)$$

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

$$27. \lim_{x \rightarrow 1} \frac{x-1}{x+1}$$

$$28. \lim_{x \rightarrow 1} \frac{1}{x-1}$$

$$29. \lim_{x \rightarrow 1/4} \frac{x^2-6x+8}{x-4}$$

$$30. \lim_{x \rightarrow 1} \frac{2x^3-14x^2+12x}{x^3-10x^2+27x-18}$$

$$31. \lim_{x \rightarrow 1} \frac{x\sqrt{x}-1}{x^2-1}$$

$$32. \lim_{x \rightarrow 1} \sqrt{5-x} - 2$$

$$33. \lim_{x \rightarrow 0} \frac{\frac{x-1}{\sqrt{1-x}} - \sqrt{1+x}}{x}$$

$$34. \lim_{x \rightarrow -1} \frac{x^3+1}{1-x^4}$$