

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

$$2. \lim_{x \rightarrow \infty} \frac{2x+1}{(x-1)^2} = 0$$

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

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

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

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

$$7. \lim_{x \rightarrow 2} \frac{x^3-x^2-8x+12}{x^3-3x^2+4} = \frac{5}{3}$$

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

$$9. \lim_{x \rightarrow \infty} (\sqrt{x^2+2x}-x) = 1$$

$$10. \lim_{x \rightarrow 2} \frac{x^2-4}{\sqrt{7+x}-3} = 24$$

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

$$12. \lim_{x \rightarrow 3} x^4 = 81$$

$$13. \lim_{x \rightarrow 0.5} x^{-3} = 1/125$$

$$14. \lim_{x \rightarrow 2} \frac{x^2+x+1}{x^2+5} = \frac{7}{9}$$

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

$$16. \lim_{x \rightarrow 0} \frac{x}{1-\sqrt{1-x}} = 2$$

$$17. \lim_{x \rightarrow 0} \frac{\sqrt{a+x}-\sqrt{a}}{x} = \frac{1}{2\sqrt{a}}$$

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

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

$$20. \lim_{x \rightarrow 1} \left( \frac{1}{x} + (x^2+1) \right) = 3$$

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

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

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

$$24. \lim_{x \rightarrow \infty} (\sqrt{x^2+1} - x) = 0$$

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

$$26. \lim_{x \rightarrow 2} \frac{4-x^2}{3-\sqrt{x^2+5}} = 6$$

$$27. \lim_{x \rightarrow 1} \frac{x-1}{x+1} = 0$$

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

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

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

$$31. \lim_{x \rightarrow 1} \frac{x\sqrt{x}-1}{x^2-1} = \frac{3}{4}$$

$$32. \lim_{x \rightarrow 1} \frac{\sqrt{5-x}-2}{x+1} = -\frac{1}{4}$$

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

$$34. \lim_{x \rightarrow -1} \frac{x^3+1}{1-x^4} = \frac{3}{2}$$