

Calcula los siguientes límites.

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

2. $\lim_{x \rightarrow 5} x^{-3} = 1/125$

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

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

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

6. $\lim_{x \rightarrow 3} \frac{2}{x - 3} = \neq$

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

23. $\lim_{x \rightarrow \infty} \frac{3x + 5}{x^4} = 0$

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

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

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

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

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

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

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

31. $\lim_{x \rightarrow \infty} (\sqrt{x^2 + 3} + x) = \infty$

32. $\lim_{x \rightarrow \infty} \frac{3x + 2}{2x^3 + 5} = 0$

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