

Calcular los siguientes límites

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

2. $\lim_{x \rightarrow 5} \frac{x^3 - 8x^2 + 16x - 5}{x^4 - 5x^3 - x + 5}$

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

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

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

6. $\lim_{x \rightarrow 0} \frac{\sqrt{x+2} - \sqrt{2}}{x}$

7. $\lim_{x \rightarrow +\infty} \frac{2x+3}{x + \sqrt[3]{x}}$

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

9. $\lim_{x \rightarrow 7} \frac{2 - \sqrt{x-3}}{x^2 - 49}$

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

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

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

13. $\lim_{x \rightarrow 7} \frac{x - 7}{\sqrt{x-4} - \sqrt{3}}$

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

Tres menos fáciles

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

16. $\lim_{x \rightarrow 8} \frac{\sqrt[3]{x} - 2}{x - 8}$

17. $\lim_{x \rightarrow 64} \frac{\sqrt{x} - 8}{\sqrt[3]{x} - 4}$

Soluciones

1. $-\frac{3}{2}$

2. $\frac{11}{124}$

3. -3

4. $\pm\infty$

5. $\frac{1}{4}$

6. $\frac{\sqrt{2}}{4}$

7. 2

8. $\frac{1}{2}$

9. $-\frac{1}{56}$

10. $\frac{1}{2}$

11. 1

12. $-\frac{1}{5}$

13. $2\sqrt{3}$

14. 1

15. $\frac{2\sqrt{2}}{3}$

16. $\frac{1}{12}$

17. 3