

**NUMEROS REALES APLICACIONES.**

Inecuaciones con fracciones algebraicas.

**NIVEL BÁSICO**

- |  |   |  |
|--|---|--|
| 1. $(x-1)^2(x-2)(x-3)^2 > 0$                             | 2. $\frac{1}{x} < 5$                              | 3. $\frac{x+2}{x+4} < 2$                           |
| 4. $-\frac{(x-1)(1-x)}{x^2+x-6} \leq \frac{1}{7}$        | 5. $\frac{1}{4-x} \leq \frac{1}{x+4}$             | 6. $x + \frac{1}{x-2} > 4$                         |
| 7. $x+1 \geq \frac{1}{1-x}$                              | 8. $\frac{1}{x-1} < \frac{4}{(1-x)(x-5)}$         | 9. $\frac{x+6}{16} < \frac{1}{2-x}$                |
| 10. $\frac{4}{x+3} + \frac{2}{x-3} < \frac{5x-1}{x^2-9}$ | 11. $\left(\frac{2x+1}{x-5}\right)^2 > 0$         | 12. $\frac{x+2}{x+4} < 2$                          |
| 13. $1 < \frac{3x^2-7x+8}{x^2+1} < 2$                    | 14. $\frac{1}{3x-2} \leq 4$                       | 15. $\frac{x+5}{2x-1} \leq 0$                      |
| 16. $\frac{2}{2x-1} > \frac{3}{3x-4}$                    | 17. $\frac{4}{x+3} \leq \frac{1}{4-x}$            | 18. $\frac{x-2}{x+4} < 2$                          |
| 19. $\frac{2x-3}{x+1} > x^2-5$                           | 20. $\frac{2x-1}{x-3} > -\frac{1}{x}$             | 21. $3 + \frac{1}{x-2} \geq \frac{4}{x+1}$         |
| 22. $\frac{1}{x+3} > -(x+1)$                             | 23. $\frac{1}{3(x-2)} + \frac{1}{(x+1)(2-x)} > 0$ | 24. $-\frac{(x-1)(1-x)}{x^2+x-6} \leq \frac{1}{7}$ |
| 25. $\frac{7x-\sqrt{3}}{x\sqrt{3}-4} > 0$                | 26. $\frac{ x }{x+2} < 0$                         | 27. $\frac{1}{ x-3 } > 0$                          |

**NIVEL MEDIO**

- |   |   |  |
|---|---|--|
| 28. $\frac{\sqrt[3]{x-1}}{\sqrt{x+1}} \leq 0$       | 29. $(x^2-x-20)\sqrt{30-7x-x^2} \geq 0$           | 30. $\left \frac{2x+1}{1-x}\right  \leq 3$ |
| 31. $\frac{x-2}{\sqrt{x-1}} \geq 0$                 | 32. $\frac{3x^2-16x-12}{\sqrt{x+4}} \geq 0$       | 33. $\frac{3 x+4 }{3x-1} \leq 2$           |
| 34. $\left \frac{3x-1}{x+1}\right  < 2$             | 35. $\left \frac{7-x}{5x+1}\right  > \frac{2}{3}$ | 36. $\frac{3-2x}{ x+2 } \geq 4$            |
| 37. $\left \frac{x+7}{10x-1}\right  > \frac{5}{17}$ | 38. $\left \frac{2x-3}{x^2-1}\right  \geq 2$      |  |

II. Determinar si cada afirmación es Verdadera o Falsa. Si es Falsa corregirla por una expresión correcta.

- |   |  |
|---|--|
| 1. $\frac{ a \cdot a }{ a } =  a , a \neq 0$              | 2. $0 <  x  < 10^{-4}$ , entonces, $10^{-4} < \frac{1}{ x }$ |
| 3. $0 <  x  < 10^{-3}$ , entonces, $10^3 < \frac{1}{ x }$ | 4. $ x  < 10^{-3}$ , entonces, $x^2 < 10^{-3}$               |

III. Diga si son verdaderas o falsas las siguientes afirmaciones:

1. Si  $|x| < 1 \Rightarrow \left|\frac{1}{2x-3}\right| < 1$
2. Si  $|x| \leq 2 \Rightarrow \left|\frac{x^2+x+7}{x^2+1}\right| \leq 15$