

ECUACIONES RACIONALES

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

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

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

$$4. \frac{5}{x-1} - \frac{3}{x+4} - \frac{3}{x^2+3x-4} = \frac{5}{x-1}$$

$$5. \frac{15}{x-2} - \frac{12x+6}{x^2-4} = \frac{18}{x+2}$$

$$6. \frac{1}{x-a} + \frac{1}{x+a} = \frac{1}{x^2-a^2}$$

$$7. \frac{1 + \frac{x+1}{x-1}}{2 - \frac{x-1}{x+1}} = 2$$

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

$$9. \frac{x-1}{x+1} - \frac{3+x}{x-1} = 2$$

$$10. \frac{3}{x+\frac{1}{2+\frac{x+1}{x-2}}} = \frac{1}{x}$$

$$11. \frac{\frac{x-3}{2}-\frac{x-3}{4}}{x-\frac{1}{1-\frac{x-1}{x+1}}} = -\frac{1}{x}$$

Soluciones.

$$1. x=2$$

$$2. x=3$$

$$3. x=0$$

$$4. x=0$$

$$5. x=4$$

$$6. x=1/2$$

$$7. x=3$$

$$8. x=3 \quad x=-1/2$$

$$9. x=-3 \quad x=0$$

$$10. x=1/2 \quad x=3/2$$

$$11. x=1 \quad x=2$$

ECUACIONES IRRACIONALES

$$1. x + \sqrt{x} = 30$$

$$2. \sqrt{x} + 1 = \sqrt{x+9}$$

$$3. \sqrt{7-3x} - x = 7$$

$$4. \sqrt{x+4} = 3 - \sqrt{x-1}$$

$$5. 5\sqrt{x} + 3 = 2x$$

$$6. 3\sqrt{6x+1} - 5 = 2x$$

$$7. \sqrt{4x+5} - \sqrt{3x+1} = 1$$

$$8. \sqrt{2x-1} + \sqrt{x+4} = 6$$

$$9. 1 + \sqrt{x+1} = \frac{x}{3}$$

$$10. \sqrt{x^3} - 2\sqrt{x} = \sqrt{x}$$

$$11. \sqrt{x-3} + \sqrt{x+4} = \sqrt{4x+1}$$

$$12. 2\sqrt{x+4} = \sqrt{5x+4}$$

$$13. \sqrt{x^2+3x+7} = 5$$

$$14. 3 - \sqrt{x} = x + 1$$

$$15. 2\sqrt{2x-1} = \sqrt{6x-5} + \sqrt{2x-9}$$

$$16. \sqrt{2x+5} + 6 = 3x + 3$$

$$17. \sqrt{3x+10} = 1 + \sqrt{3x+3}$$

$$18. \sqrt{3x-2} - 4 = 0$$

$$19. \sqrt{2x+1} = x - 1$$

$$20. \sqrt{2x-1} + \sqrt{2x+1} = \frac{1}{\sqrt{2x-1}}$$

$$21. \frac{21}{\sqrt{6x+1}} - \sqrt{6x+1} = 2\sqrt{3x}$$

$$22. \frac{3}{\sqrt{x}} = \frac{6}{\sqrt{3x+4}}$$

$$23. \sqrt{2} + \sqrt{\frac{2^3}{x}} = \sqrt{2x}$$

$$24. \sqrt{x+6} + \sqrt{x+11} = \sqrt{5-10x}$$

$$25. \sqrt{9\sqrt{15-x}} = 6\sqrt{2x+3}$$

Soluciones:

$$1. x=25, x=36;$$

$$2. x=16;$$

$$3. x=-3, x=-14;$$

$$4. x=13/9;$$

$$5. x=9, x=1/4;$$

$$6. x=8, x=1/2;$$

$$7. x=5, x=1;$$

$$8. x=5, x=221;$$

$$9. x=15, x=0;$$

$$10. x=0, x=3;$$

$$11. x=12;$$

$$12. x=12;$$

$$13. x=3, x=-6;$$

$$14. x=1, x=4;$$

$$15. x=5;$$

$$16. x=2/9, x=2;$$

$$17. x=2;$$

$$18. x=6;$$

$$19. x=4, x=0;$$

$$20. x=5/8;$$

$$21. x=4/3;$$

$$22. x=4;$$

$$23. x=4, x=1;$$

$$24. x=-2, x=3/7;$$

$$25. x=-1$$

ECUACIONES BICUADRADAS Y BICÚBICAS

$$1. x^4 - 5x^2 + 4 = 0$$

$$2. x^4 + 2x^2 - 3 = 0$$

$$3. x^6 - 9x^3 + 8 = 0$$

$$4. x^6 - 26x^3 - 27 = 0$$

$$5. 6x^4 + 2x^2 - 8 = 0$$

$$6. x^4 - 4x^2 = 0$$

$$7. 4x^4 - 17x^2 + 4 = 0$$

$$8. 9x^4 - 3x^2 + 4 = 0$$

$$9. x^4 - 6x^2 - 27 = 0$$

$$10. x^6 + 7x^3 - 8 = 0$$

$$11. x^4 - 2x^2 - 8 = 0$$

$$12. x^6 + 28x^3 + 27 = 0$$

Soluciones:

$$1. x=1, x=2; \quad 2. x=1;$$

$$3. x=2, x=1;$$

$$4. x=-1, x=3;$$

$$5. x=1; \quad 6. x=0, x=2;$$

$$7. x=2, x=1/2$$

$$8. x=1/3, x=2$$

$$9. x=3$$

$$10. x=1, x=-2$$

$$11. x=2$$

$$12. x=-1, x=-3$$