

Ecuaciones Irracionales

1. Resuelve la ecuación:

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|----------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| 1. $\sqrt{3x-8} - 2 = 0$ | 2. $\sqrt{4x-8} - 2 = 0$ | 3. $\sqrt{2x+2} - 2 = 0$ | 4. $\sqrt{4x+3} - 2 = 0$ | 5. $2 - \sqrt{3x+2} = 0$ |
| 6. $2 - \sqrt{2x+5} = 0$ | 7. $\sqrt{3x+10} - 1 = 0$ | 8. $4 - \sqrt{4x+17} = 0$ | 9. $3 - \sqrt{3x+12} = 0$ | 10. $\sqrt{3x+10} - 2 = 0$ |
| 11. $4 - \sqrt{12x+7} = 0$ | 12. $\sqrt{3x+13} - 3 = 0$ | 13. $4 - \sqrt{2x+15} = 0$ | 14. $\sqrt{2x+10} - 2 = 0$ | 15. $\sqrt{4x+103} = 10$ |
| 16. $5 - \sqrt{2x+23} = 0$ | 17. $\sqrt{4x+22} - 5 = 0$ | 18. $\sqrt{2x+22} - 5 = 0$ | 19. $\sqrt{3x+23} - 5 = 0$ | 20. $4 - \sqrt{4x+28} = 0$ |
| 21. $\sqrt{2} - \sqrt{4x+3} = 0$ | 22. $\sqrt{3x+71} - 5\sqrt{3} = 0$ | 23. $\sqrt{2x+31} - 4\sqrt{2} = 0$ | 24. $4\sqrt{2} - \sqrt{6x+35} = 0$ | 25. $5\sqrt{2} - \sqrt{4x+53} = 0$ |

2. Resuelve la ecuación:

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|------------------------------|------------------------------|------------------------------|------------------------------|-------------------------------|
| 1. $1 - \sqrt{2x^2-1} = 0$ | 2. $\sqrt{4x^2+24} = 5$ | 3. $\sqrt{3x^2+22} = 5$ | 4. $\sqrt{4x^2-3} - 1 = 0$ | 5. $4 - \sqrt{x^2+15} = 0$ |
| 6. $\sqrt{x^2+21} - 5 = 0$ | 7. $\sqrt{4x^2-5} - 2 = 0$ | 8. $\sqrt{4x^2+7} - 4 = 0$ | 9. $\sqrt{x^2+24} - 5 = 0$ | 10. $\sqrt{2x^2+2} - 2 = 0$ |
| 11. $\sqrt{2x^2+7} - 3 = 0$ | 12. $\sqrt{12x^2+33} = 6$ | 13. $2 - \sqrt{4x^2-12} = 0$ | 14. $2 - \sqrt{16x^2-5} = 0$ | 15. $\sqrt{18x^2+7} - 3 = 0$ |
| 16. $\sqrt{16x^2+7} - 4 = 0$ | 17. $5 - \sqrt{3x^2+13} = 0$ | 18. $\sqrt{4x^2+12} - 4 = 0$ | 19. $5 - \sqrt{2x^2+17} = 0$ | 20. $\sqrt{18x^2+4} - 6 = 0$ |
| 21. $\sqrt{4x^2+15} - 4 = 0$ | 22. $\sqrt{2x^2-23} - 3 = 0$ | 23. $\sqrt{4x^2+35} - 6 = 0$ | 24. $\sqrt{9x^2+24} - 5 = 0$ | 25. $\sqrt{16x^2+16} - 5 = 0$ |

3. Resuelve la ecuación:

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|------------------------------------|----------------------------------|-------------------------------------|--------------------------------------|--------------------------------------|
| 1. $2 - \sqrt{x^3+5} = 0$ | 2. $\sqrt{x^3+8} - 3 = 0$ | 3. $\sqrt{x^3+3} - 2 = 0$ | 4. $\sqrt{3x^3-77} = 2$ | 5. $\sqrt{3x^3-20} = 2$ |
| 6. $\sqrt{2x^3-1} - 1 = 0$ | 7. $\sqrt{2x^3+28} = 2$ | 8. $\sqrt{x^3+17} - 3 = 0$ | 9. $\sqrt{2x^3+3} - 1 = 0$ | 10. $\sqrt{8x^3+3} - 2 = 0$ |
| 11. $\sqrt{2x^3+2} - 2 = 0$ | 12. $2 - \sqrt{3x^3+7} = 0$ | 13. $3 - \sqrt{3x^3+6} = 0$ | 14. $\sqrt{27x^3+82} = 9$ | 15. $\sqrt{2x^3-12} - 2 = 0$ |
| 16. $\sqrt{3x^3-23} - 1 = 0$ | 17. $\sqrt{3x^3+12} - 3 = 0$ | 18. $\sqrt{2x^3+20} - 2 = 0$ | 19. $\sqrt{3x^3+90} - 3 = 0$ | 20. $\sqrt{3x^3+33} - 3 = 0$ |
| 21. $\sqrt{8x^3+9} - \sqrt{8} = 0$ | 22. $\sqrt{8x^3+33} = 2\sqrt{8}$ | 23. $\sqrt{24x^3+5} - \sqrt{8} = 0$ | 24. $\sqrt{24x^3+11} - \sqrt{8} = 0$ | 25. $3\sqrt{8} - \sqrt{8x^3+71} = 0$ |

4. Resuelve la ecuación:

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|--|--|--|--|--|
| 1. $\sqrt[3]{x+12} - 2 = 0$ | 2. $\sqrt[3]{2x+2} - 1 = 0$ | 3. $\sqrt[3]{4x+4} - 2 = 0$ | 4. $\sqrt[3]{2x+7} - 2 = 0$ | 5. $\sqrt[3]{x+26} - 3 = 0$ |
| 6. $3 - \sqrt[3]{x+25} = 0$ | 7. $\sqrt[3]{3x+7} - 2 = 0$ | 8. $2 - \sqrt[3]{3x+5} = 0$ | 9. $1 - \sqrt[3]{3x+13} = 0$ | 10. $\sqrt[3]{4x+17} - 1 = 0$ |
| 11. $\sqrt[3]{2x+11} - 2 = 0$ | 12. $\sqrt[3]{2x+31} - 3 = 0$ | 13. $\sqrt[3]{3x+10} - 2 = 0$ | 14. $2 - \sqrt[3]{3x+12} = 0$ | 15. $\sqrt[3]{4x+31} - 3 = 0$ |
| 16. $3 - \sqrt[3]{2x+28} = 0$ | 17. $3 - \sqrt[3]{4x+35} = 0$ | 18. $3 - \sqrt[3]{4x+24} = 0$ | 19. $\sqrt[3]{2x+25} - 3 = 0$ | 20. $\sqrt[3]{4x+43} - 3 = 0$ |
| 21. $\sqrt[3]{3x+7} - \sqrt[3]{3} = 0$ | 22. $\sqrt[3]{4x+3} - \sqrt[3]{2} = 0$ | 23. $\sqrt[3]{6x+13} - 2\sqrt[3]{2} = 0$ | 24. $3\sqrt[3]{3} - \sqrt[3]{6x+73} = 0$ | 25. $\sqrt[3]{3x+22} - 2\sqrt[3]{3} = 0$ |

5. Resuelve la ecuación:

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|--|--------------------------------------|--|---|---|
| 1. $\sqrt[3]{16x^2+18} = 3$ | 2. $\sqrt[3]{9x^2-13} = \sqrt[3]{3}$ | 3. $\sqrt[3]{4x^2-8} - 1 = 0$ | 4. $3 - \sqrt[3]{4x^2-9} = 0$ | 5. $\sqrt[3]{2x^2-5} - 3 = 0$ |
| 6. $2 - \sqrt[3]{9x^2-8} = 0$ | 7. $\sqrt[3]{4x^2+7} - 2 = 0$ | 8. $2 - \sqrt[3]{9x^2+7} = 0$ | 9. $2 - \sqrt[3]{4x^2+7} = 0$ | 10. $2 - \sqrt[3]{9x^2+4} = 0$ |
| 11. $\sqrt[3]{x^2+26} - 3 = 0$ | 12. $1 - \sqrt[3]{3x^2-11} = 0$ | 13. $\sqrt[3]{4x^2+11} - 3 = 0$ | 14. $3 - \sqrt[3]{3x^2+15} = 0$ | 15. $\sqrt[3]{2x^2+19} - 3 = 0$ |
| 16. $\sqrt[3]{16x^2+7} - 2 = 0$ | 17. $\sqrt[3]{2x^2-24} - 2 = 0$ | 18. $\sqrt[3]{3x^2+24} - 3 = 0$ | 19. $3 - \sqrt[3]{2x^2+25} = 0$ | 20. $3 - \sqrt[3]{9x^2+23} = 0$ |
| 21. $\sqrt[3]{4x^2-7} - \sqrt[3]{2} = 0$ | 22. $3 - \sqrt[3]{16x^2+18} = 0$ | 23. $\sqrt[3]{9x^2+5} - \sqrt[3]{9} = 0$ | 24. $\sqrt[3]{18x^2+1} - \sqrt[3]{9} = 0$ | 25. $2\sqrt[3]{3} - \sqrt[3]{9x^2+8} = 0$ |

6. Resuelve la ecuación:

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|--|---------------------------------|---------------------------------|--|----------------------------------|
| 1. $\sqrt[3]{2x^3-46} = 2$ | 2. $\sqrt[3]{24x^3+5} = 2$ | 3. $\sqrt[3]{2x^3+25} = 3$ | 4. $\sqrt[3]{8x^3+215} = 6$ | 5. $\sqrt[3]{2x^3-1} - 1 = 0$ |
| 6. $\sqrt[3]{x^3-26} - 1 = 0$ | 7. $\sqrt[3]{3x^3-2} - 1 = 0$ | 8. $\sqrt[3]{54x^3+218} = 6$ | 9. $\sqrt[3]{27x^3+215} = 6$ | 10. $\sqrt[3]{24x^3+213} = 6$ |
| 11. $\sqrt[3]{8x^3+31} = 2\sqrt[3]{4}$ | 12. $\sqrt[3]{x^3+28} - 3 = 0$ | 13. $2 - \sqrt[3]{2x^3+6} = 0$ | 14. $\sqrt[3]{2x^3-15} - 1 = 0$ | 15. $2 - \sqrt[3]{3x^3+11} = 0$ |
| 16. $1 - \sqrt[3]{2x^3+17} = 0$ | 17. $3 - \sqrt[3]{2x^3+81} = 0$ | 18. $\sqrt[3]{2x^3+55} - 1 = 0$ | 19. $3 - \sqrt[3]{2x^3-27} = 0$ | 20. $\sqrt[3]{2x^3+43} - 3 = 0$ |
| 21. $\sqrt[3]{2x^3+29} - 3 = 0$ | 22. $\sqrt[3]{3x^3+32} - 2 = 0$ | 23. $\sqrt[3]{3x^3+30} - 3 = 0$ | 24. $\sqrt[3]{8x^3+3} - \sqrt[3]{4} = 0$ | 25. $2 - \sqrt[3]{24x^3+11} = 0$ |

7. Resuelve la ecuación:

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|----------------------------------|-----------------------------------|-----------------------------------|-------------------------------------|
| 1. $\sqrt{4x+20} = 4\sqrt{3x+4}$ | 2. $3\sqrt{2x+14} = 4\sqrt{2x+7}$ | 3. $4\sqrt{x+10} = 3\sqrt{4x+20}$ | 4. $4\sqrt{x-1} - \sqrt{3x+10} = 0$ |
|----------------------------------|-----------------------------------|-----------------------------------|-------------------------------------|

5. $\sqrt{8x+6} - 3\sqrt{2x-1} = 0$	6. $4\sqrt{2x+5} - \sqrt{x+18} = 0$	7. $3\sqrt{3x+1} - 2\sqrt{x+8} = 0$	8. $4\sqrt{x+6} - 3\sqrt{x+13} = 0$
9. $2\sqrt{2x-3} - \sqrt{3x-2} = 0$	10. $\sqrt{4x+8} - 2\sqrt{4x-4} = 0$	11. $4\sqrt{x+6} - 3\sqrt{4x+4} = 0$	12. $3\sqrt{2x+2} - 2\sqrt{x+8} = 0$
13. $\sqrt{2x+8} - 2\sqrt{4x+9} = 0$	14. $\sqrt{2x+14} - \sqrt{4x+12} = 0$	15. $\sqrt{2x+17} - \sqrt{4x+16} = 0$	16. $3\sqrt{4x-15} - \sqrt{4x-7} = 0$
17. $4\sqrt{2x+1} - \sqrt{8x+28} = 0$	18. $\sqrt{4x+26} - 4\sqrt{6x-7} = 0$	19. $\sqrt{3x+44} - 4\sqrt{9x-9} = 0$	20. $\sqrt{4x+34} - 4\sqrt{2x+3} = 0$
21. $2\sqrt{3x+8} - \sqrt{9x+36} = 0$	22. $2\sqrt{4x+6} - \sqrt{6x+29} = 0$	23. $4\sqrt{2x+5} - \sqrt{3x+22} = 0$	24. $3\sqrt{4x+2} - \sqrt{4x+34} = 0$

8. Resuelve la ecuación:

1. $\sqrt{x^2+10x} = \sqrt{9x+12}$	2. $\sqrt{5x+1} - \sqrt{x^2+5x} = 0$	3. $\sqrt{8x^2-x} - \sqrt{9x+3} = 0$	4. $\sqrt{x^2+4x} - \sqrt{8x-3} = 0$
5. $\sqrt{x^2+2x} - \sqrt{6x-3} = 0$	6. $\sqrt{x^2+7x} - \sqrt{6x+6} = 0$	7. $\sqrt{x^2+9x} - \sqrt{9x+4} = 0$	8. $\sqrt{x^2+6x} - \sqrt{7x+2} = 0$
9. $\sqrt{x^2+7x} - \sqrt{8x+2} = 0$	10. $\sqrt{x^2+4x} - \sqrt{6x+3} = 0$	11. $\sqrt{x^2+8x} - \sqrt{8x+9} = 0$	12. $\sqrt{x^2+9x} - \sqrt{6x+4} = 0$
13. $\sqrt{x^2+4x} - \sqrt{3x+2} = 0$	14. $\sqrt{x^2+7x} - \sqrt{8x+2} = 0$	15. $\sqrt{x^2+2x} - \sqrt{3x+2} = 0$	16. $\sqrt{x^2+11x} - \sqrt{9x+3} = 0$
17. $\sqrt{6x^2-9x} - \sqrt{4x-6} = 0$	18. $\sqrt{4x^2+7x} - \sqrt{7x+1} = 0$	19. $\sqrt{x^2+10x} - \sqrt{9x+2} = 0$	20. $\sqrt{2x-3} - \sqrt{2x^2-3x} = 0$
21. $\sqrt{8x^2+7x} - \sqrt{9x+1} = 0$	22. $\sqrt{4x^2+6x} - \sqrt{9x+1} = 0$	23. $\sqrt{3x^2+8x} - \sqrt{6x+1} = 0$	24. $2\sqrt{x+1} - \sqrt{9x^2+13x} = 0$

9. Resuelve la ecuación:

1. $\sqrt{3x^2+4} = 2\sqrt{2x^2-4}$	2. $\sqrt{x^2+7} = 2\sqrt{3x^2-23}$	3. $2\sqrt{3x^2-8} = \sqrt{3x^2+4}$	4. $2\sqrt{2x^2+2} = \sqrt{2x^2+14}$
5. $\sqrt{2x^2-1} - \sqrt{3x^2-2} = 0$	6. $\sqrt{x^2+8} - 3\sqrt{2x^2-1} = 0$	7. $4\sqrt{2x^2+7} = 3\sqrt{3x^2+13}$	8. $\sqrt{2x^2+2} - \sqrt{3x^2+1} = 0$
9. $2\sqrt{x^2+3} - \sqrt{x^2+15} = 0$	10. $3\sqrt{2x^2+14} = 4\sqrt{3x^2+6}$	11. $4\sqrt{2x^2-7} - \sqrt{x^2+7} = 0$	12. $2\sqrt{2x^2-1} - \sqrt{3x^2+1} = 0$
13. $\sqrt{x^2+15} - 4\sqrt{2x^2-1} = 0$	14. $4\sqrt{2x^2-7} - \sqrt{x^2+12} = 0$	15. $\sqrt{2x^2+1} - 3\sqrt{2x^2-7} = 0$	16. $\sqrt{x^2+15} - 2\sqrt{2x^2+2} = 0$
17. $3\sqrt{x^2+7} - 4\sqrt{2x^2-9} = 0$	18. $\sqrt{16x^2-4} - \sqrt{8x^2+14} = 0$	19. $\sqrt{2x^2+14} - \sqrt{3x^2+13} = 0$	20. $\sqrt{2x^2-14} - \sqrt{3x^2-23} = 0$
21. $3\sqrt{3x^2+13} - 4\sqrt{x^2+8} = 0$	22. $2\sqrt{3x^2-3} - 3\sqrt{3x^2-8} = 0$	23. $3\sqrt{3x^2-26} - \sqrt{2x^2-9} = 0$	24. $3\sqrt{x^2+15} - 4\sqrt{3x^2+6} = 0$

10. Resuelve la ecuación:

1. $2x = \sqrt{14x-6}$	2. $2x = \sqrt{15x-9}$	3. $6x = \sqrt{9-15x}$	4. $x - \sqrt{8-2x} = 0$	5. $\sqrt{3x-2} - x = 0$
6. $x - \sqrt{8x-2} = 0$	7. $x - \sqrt{4x-3} = 0$	8. $\sqrt{3-2x} - x = 0$	9. $\sqrt{2x+3} - x = 0$	10. $x - \sqrt{2x+3} = 0$
11. $x - \sqrt{3x+4} = 0$	12. $3x - \sqrt{6x-1} = 0$	13. $6x - \sqrt{6-6x} = 0$	14. $3x - \sqrt{3x+6} = 0$	15. $2x - \sqrt{2x+2} = 0$
16. $\sqrt{2x+6} - 2x = 0$	17. $2x - \sqrt{4x+3} = 0$	18. $6x - \sqrt{21x-3} = 0$	19. $2x - \sqrt{10x-6} = 0$	20. $3x - \sqrt{3x+12} = 0$
21. $6x - \sqrt{6x+12} = 0$	22. $2x - \sqrt{10x+6} = 0$	23. $4x - \sqrt{20x+6} = 0$	24. $6x - \sqrt{51x-18} = 0$	25. $6x - \sqrt{42x+18} = 0$

11. Resuelve la ecuación:

1. $3x-1 = 3\sqrt{3x-3}$	2. $3x+2 = \sqrt{3x+14}$	3. $\sqrt{3x+1} - x-1 = 0$	4. $\sqrt{x+17} - x-5 = 0$	5. $3\sqrt{3x-1} - 3x = 1$
6. $\sqrt{4x-11} + 5 = 2x$	7. $\sqrt{4x+8} - x-2 = 0$	8. $\sqrt{x+4} - 2x-7 = 0$	9. $\sqrt{2x+15} - 9 = 2x$	10. $\sqrt{4x+13} - 2x = 7$
11. $3\sqrt{3x+3} - 5 = 3x$	12. $2\sqrt{2x+5} - 2x = 5$	13. $2\sqrt{2x+8} - 5 = 2x$	14. $\sqrt{3x+6} - 2x-1 = 0$	15. $4\sqrt{4x+7} - 4x = 11$
16. $2\sqrt{2x+13} - 5 = 2x$	17. $\sqrt{3x+3} - 3x+3 = 0$	18. $3\sqrt{3x-1} - 3x-1 = 0$	19. $2\sqrt{2x+19} - 11 = 2x$	20. $2x-2\sqrt{2x+1} + 1 = 0$
21. $\sqrt{3x+12} - 2x-5 = 0$	22. $\sqrt{3x+10} - 3x-8 = 0$	23. $\sqrt{4x+13} - 3x-6 = 0$	24. $6x-2\sqrt{2x+3} + 1 = 0$	25. $3x - \sqrt{3x+17} + 5 = 0$

12. Resuelve la ecuación:

1. $\sqrt{x^2+8} - x = 2$	2. $3x - \sqrt{x^2+3} = 1$	3. $\sqrt{3x^2+1} - x = 3$	4. $\sqrt{2x^2+7} - x = 2$	5. $3x - \sqrt{3x^2+1} = 1$
6. $2x-1 = \sqrt{3x^2-3}$	7. $3x-1 = \sqrt{9x^2-7}$	8. $3x-2 = \sqrt{3x^2-2}$	9. $x+5 = \sqrt{2x^2+14}$	10. $3x - \sqrt{2x^2+8} = 2$
11. $\sqrt{2x^2+1} - 2x = 7$	12. $\sqrt{3x^2-44} - x = 6$	13. $2x+9 = \sqrt{12x^2+9}$	14. $\sqrt{4x^2-8} - 4 = 2x$	15. $\sqrt{3x^2+6} - 5 = 2x$
16. $3x - \sqrt{2x^2-14} = 7$	17. $\sqrt{x^2+12} - x-2 = 0$	18. $\sqrt{4x^2+12} - 1 = 3x$	19. $x - \sqrt{3x^2-8} + 4 = 0$	20. $\sqrt{9x^2-15} - 5 = 3x$
21. $\sqrt{3x^2+6} - x-2 = 0$	22. $\sqrt{x^2+8} - 2x-5 = 0$	23. $\sqrt{2x^2+14} - 7 = 3x$	24. $x - \sqrt{4x^2-15} + 3 = 0$	25. $\sqrt{18x^2+4} - 10 = 3x$

13. Resuelve la ecuación:

1. $\sqrt{2x+10} - \sqrt{x+1} = 2$	2. $\sqrt{4x-4} - \sqrt{4x-7} = 1$	3. $\sqrt{3x-5} + 1 = \sqrt{4x-4}$	4. $\sqrt{2x+3} + 1 = \sqrt{4x+4}$
5. $3 - \sqrt{2x+4} = \sqrt{2x+7}$	6. $\sqrt{3x+14} - 1 = \sqrt{3x+7}$	7. $\sqrt{2x+15} - 2 = \sqrt{2x+3}$	8. $\sqrt{3x+18} - 2 = \sqrt{3x+6}$

$$\begin{array}{lll}
9. \sqrt{3x+14} - 2 = \sqrt{3x+2} & 10. \sqrt{2x} - \sqrt{2x+8} + 2 = 0 & 11. 2\sqrt{3x+1} - \sqrt{4x+5} = 1 \\
13. \sqrt{4x+11} - \sqrt{2x+2} = 2 & 14. \sqrt{3x+13} - \sqrt{2x+7} = 1 & 15. \sqrt{4x+13} - \sqrt{4x-2} = 3 \\
17. \sqrt{3x+19} - \sqrt{3x+4} = 3 & 18. \sqrt{3x+18} - \sqrt{3x+3} = 3 & 19. \sqrt{2x+18} - \sqrt{2x+11} = 1 \\
21. \sqrt{2x+17} - \sqrt{2x+10} = 1 & 22. 3\sqrt{2x+1} - \sqrt{2x+13} = 2 & 23. \sqrt{2x+1} - \sqrt{4x+5} + 2 = 0 \\
& & 24. \sqrt{2x+18} - \sqrt{x+5} - 2 = 0
\end{array}$$

14. Resuelve la ecuación:

$$\begin{array}{lllll}
1. 2x+1 = \sqrt{8x^3+1} & 2. 3-x\sqrt{2x-2} = 3x & 3. 3x+1 = \sqrt{6x^3+1} & 4. 3-4x = \sqrt{9-8x^3} & 5. 4-x\sqrt{16x+41} = x \\
6. x\sqrt{7-6x} + 3 = 2x & 7. x\sqrt{3x-2} + 3x = 2 & 8. \sqrt{9-8x^3} + 2x = 3 & 9. \sqrt{8x^3+9} - 3 = 4x & 10. x\sqrt{5-2x} - x + 4 = 0 \\
11. x\sqrt{4x+5} - x - 2 = 0 & 12. \sqrt{16x^3+9} + 3 = 8x & 13. 8x - x\sqrt{19-27x} = 6 & 14. 4x - \sqrt{8x^3+1} - 1 = 0 & 15. 2x - \sqrt{8x^3+1} + 1 = 0 \\
16. \sqrt{1-3x^3} + 3x + 1 = 0 & 17. 5x+1 + \sqrt{1-15x^3} = 0 & 18. 4-x\sqrt{72x-23} = 11x & 19. 6-x\sqrt{48x-23} = 11x & 20. \sqrt{81x^3+1} - 9x + 1 = 0 \\
21. \sqrt{1-24x^3} + 6x + 1 = 0 & 22. \sqrt{40-3x^3} + 3x - 2 = 0 & 23. \sqrt{-12x^3-3} + 6x + 3 = 0 & 24. 2x+3+x\sqrt{43-18x} = 0 & 25. 10x-3-\sqrt{40x^3+9} = 0
\end{array}$$

15. Resuelve la ecuación:

$$\begin{array}{lllll}
1. 6-\sqrt{32-7x^2} = x^2 & 2. 7-\sqrt{45-9x^2} = x^2 & 3. 2x^2-3 = \sqrt{5x^2+5} & 4. 5-2x^2 = \sqrt{16-7x^2} & 5. \sqrt{55-6x^2} + 8 = x^2 \\
6. \sqrt{40-4x^2} + 7 = x^2 & 7. 2x^4-4 = \sqrt{9x^2-20} & 8. 2x^4-\sqrt{21x^2+7} = 4 & 9. 3x^3-3 = \sqrt{22x^2-7} & 10. x^2-\sqrt{6x^2-5} - 2 = 0 \\
11. 4-\sqrt{15-11x^2} = 2x^2 & 12. 2x^2-\sqrt{45-11x^2} = 7 & 13. 9-2x^2 = \sqrt{45-11x^2} & 14. 2x^2-1 = \sqrt{21x^2-35} & 15. 8-\sqrt{55-19x^2} = 2x^2 \\
16. 2x^2-2 = \sqrt{17x^2-32} & 17. 6-2x^2 = \sqrt{35-19x^2} & 18. 9-x^2-\sqrt{77-13x^2} = 0 & 19. \sqrt{40-15x^2} + 2x^2 = 7 & 20. 7-3x^2 = \sqrt{45-29x^2} \\
21. 4x^2-\sqrt{55-24x^2} = 8 & 22. 9-3x^2 = \sqrt{80-44x^2} & 23. \sqrt{48-32x^2} + 3x^2 = 7 & 24. \sqrt{60-11x^2} + x^2 - 8 = 0 & 25. \sqrt{13x^2-3} - 2x^2 + 1 = 0
\end{array}$$

16. Resuelve la ecuación:

$$\begin{array}{lllll}
1. \sqrt{6x+21} - \sqrt{3} = \sqrt{6x+12} & 2. \sqrt{8x-6} - \sqrt{4x-10} = 2\sqrt{2} & 3. \sqrt{3x+15} - \sqrt{3x-9} = 2\sqrt{3} & 4. \sqrt{12x+23} - \sqrt{9x+9} = \sqrt{3} \\
5. \sqrt{9x+24} - \sqrt{3} = \sqrt{6x+10} & 6. \sqrt{4x+14} + \sqrt{2} = \sqrt{4x+20} & 7. \sqrt{8x+24} - \sqrt{4x+5} = 2\sqrt{2} & 8. \sqrt{3x+2} + 2\sqrt{3} = \sqrt{9x+24} \\
9. \sqrt{6x+21} - \sqrt{3} = \sqrt{12x+21} & 10. \sqrt{4x+4} - \sqrt{8x-6} - \sqrt{2} = 0 & 11. \sqrt{9x+21} \sqrt{6x+9} - \sqrt{3} = 0 & 12. \sqrt{12x+39} - \sqrt{9x+21} = \sqrt{3} \\
13. \sqrt{3x+21} - \sqrt{3} = \sqrt{12x+39} & 14. \sqrt{8x+10} + \sqrt{2x+16} = 6\sqrt{2} & 15. \sqrt{4x+34} - 2\sqrt{2} = \sqrt{4x+18} & 16. \sqrt{12x+43} - \sqrt{3} = \sqrt{9x+24} \\
17. \sqrt{9x-6} - \sqrt{3x+9} + \sqrt{3} = 0 & 18. \sqrt{2x+3} - \sqrt{4x+10} + \sqrt{2} = 0 & 19. \sqrt{6x+18} - \sqrt{6x-6} - 2\sqrt{3} = 0 & 20. \sqrt{6x+15} - \sqrt{6x-1} - 2\sqrt{2} = 0 \\
21. \sqrt{12x+19} - \sqrt{9x+6} - \sqrt{3} = 0 & 22. \sqrt{6x+20} - \sqrt{8x+18} - \sqrt{2} = 0 & 23. \sqrt{4x-2} - \sqrt{6x+12} + 2\sqrt{2} = 0 & 24. \sqrt{8x+10} - \sqrt{8x+20} + \sqrt{2} = 0
\end{array}$$

17. Resuelve la ecuación:

$$\begin{array}{lll}
1. \sqrt{2x+9} - \sqrt{8x+6} = \sqrt{2x+3} & 2. \sqrt{8x+16} - \sqrt{4x+1} = \sqrt{4x+7} & 3. \sqrt{9x-3} + \sqrt{3x+1} = \sqrt{12x+4} \\
4. \sqrt{2x+3} + \sqrt{2x+6} = \sqrt{2x+11} & 5. \sqrt{6x+9} - \sqrt{6x-7} = 2\sqrt{4x-4} & 6. \sqrt{2x+10} - \sqrt{4x+6} = \sqrt{2x+2} \\
7. \sqrt{4x+13} - \sqrt{2x+3} = \sqrt{4x+8} & 8. \sqrt{12x+11} - \sqrt{9x-9} = \sqrt{3x+8} & 9. \sqrt{4x+3} + \sqrt{4x+9} = \sqrt{8x+20} \\
10. \sqrt{2x+5} - \sqrt{x-1} - \sqrt{4x-4} = 0 & 11. \sqrt{x-1} + \sqrt{3x-2} - \sqrt{3x+3} = 0 & 12. \sqrt{2x+7} - \sqrt{x+3} - \sqrt{3x-2} = 0 \\
13. 2\sqrt{4x+13} - 3\sqrt{x+2} = \sqrt{x+10} & 14. 2\sqrt{4x+1} - \sqrt{4x-4} = 2\sqrt{3x-2} & 15. \sqrt{9x+15} + \sqrt{6x+5} = \sqrt{9x+30} \\
16. \sqrt{8x+20} - 2\sqrt{4x+3} = \sqrt{8x+4} & 17. 2\sqrt{3x+7} - \sqrt{4x+8} = 2\sqrt{4x+5} & 18. 2\sqrt{2x+13} - 2\sqrt{x+6} = \sqrt{4x+12} \\
19. 2\sqrt{x+8} + \sqrt{4x+20} = 2\sqrt{4x+25} & 20. 2\sqrt{6x+11} - \sqrt{4x+10} = 2\sqrt{2x+3} & 21. 2\sqrt{6x+21} - \sqrt{8x+12} = 2\sqrt{2x+9} \\
22. 3\sqrt{x+8} - \sqrt{3x+6} - 3\sqrt{2x+2} = 0 & 23. \sqrt{3x+23} - \sqrt{12x-4} - \sqrt{3x-1} = 0 & 24. 3\sqrt{4x+5} - \sqrt{3x+6} - 3\sqrt{3x+1} = 0
\end{array}$$

- 1.1. 4 1.2. 3 1.3. 1 1.4. $\frac{1}{4}$ 1.5. $\frac{2}{3}$ 1.6. $\frac{-1}{2}$ 1.7. -3 1.8. $\frac{-1}{4}$ 1.9. -1 1.10. -2 1.11. $\frac{3}{4}$ 1.12. $\frac{-4}{3}$ 1.13. $\frac{1}{2}$ 1.14. -3 1.15. $\frac{-3}{4}$ 1.16. 1 1.17. $\frac{3}{4}$
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 3.18. -2 3.19. -3 3.20. -2 3.21. $\frac{-1}{2}$ 3.22. $\frac{-1}{2}$ 3.23. $\frac{1}{2}$ 3.24. $\frac{-1}{2}$ 3.25. $\frac{1}{2}$ 4.1. -4 4.2. $\frac{-1}{2}$ 4.3. 1 4.4. $\frac{1}{2}$ 4.5. 1 4.6. 2 4.7. $\frac{1}{3}$ 4.8. 1 4.9. -4
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