

1. Resuelve la ecuación:

[$ax^2+c=0$]

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

2. Resuelve la ecuación:

[$ax^2+bx=0$]

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

3. Resuelve la ecuación:

[Dos sol.]

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|------------------------------|-------------------------------|-----------------------------|--------------------------------|
| 1. $3(x-1)+2x^2+1=0$ | 2. $3x^2-2(x+1)+7x=0$ | 3. $2-3x=4x^2-x(x+2)$ | 4. $x(2x+1)+4x+6=x^2$ |
| 5. $5x+2=2x(x+3)-x^2$ | 6. $1-5x=6x^2-2(x^2-1)$ | 7. $10x^2-x(x-1)-8=7x$ | 8. $x(2x-1)-2=4x^2-6x$ |
| 9. $10-5x=3x^2-3(x-3)$ | 10. $4x+8=10x^2-x(x+2)$ | 11. $5x^2-6x-2=x(3x-3)$ | 12. $3(3x+2)-6x-5=4x^2$ |
| 13. $2x^2+x=2(2x^2+3)-7$ | 14. $9x-8=2(2x-3)+2x^2$ | 15. $x(3x+2)-6x^2=6x-4$ | 16. $2x(x+3)+2=3x^2+5x$ |
| 17. $x+1=12x^2-3(3x^2-x)$ | 18. $2x(3x+3)-10x^2-x=1$ | 19. $x^2-2(2x-2)+6x-7=0$ | 20. $9-3(3x+2)=6x^2-16x$ |
| 21. $5x^2-9x-2=3x(2x-2)$ | 22. $2x^2+10x+3=3(3x+2)$ | 23. $3-2x=3x(3x+3)-5x^2$ | 24. $7x-2x^2-2(3x-1)+1=0$ |
| 25. $x(3x-3)-11x^2=3-13x$ | 26. $10x-2=3x(2x+1)-3x^2$ | 27. $19x-15=3(2x-3)+6x^2$ | 28. $9x^2-13x-6=2x(3x-3)$ |
| 29. $10-7x^2=8x-2(2x^2+3)$ | 30. $2x-3=13x^2-3x(3x+2)$ | 31. $3(3x^2-1)+3x^2+17x=-9$ | 32. $4x^2-2(3x^2+3)+x+12=0$ |
| 33. $9-3x=14x^2-3(2x^2+3x)$ | 34. $7x^2-3(x^2-3x)-12x-1=0$ | 35. $3x(2x-3)-18x^2-16x=12$ | 36. $2(2x^2+2x)-2x^2-3x-1=0$ |
| 37. $3x^2-2(2x^2-3x)-9x+4=0$ | 38. $3x^2-2(3x^2-3x)-14x+3=0$ | 39. $2(x^2-x)+7x+4=2(x+3)$ | 40. $2x^2-x(3x-3)-7x-2=x(x+1)$ |

4. Resuelve la ecuación:

[Sol. doble]

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

5. Resuelve la ecuación:

[Sin sol. $ax^2+c=0$]

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|----------------------------|------------------------------|-----------------------------|--------------------------------|
| 1. $3x^2-4x+9=2x(x-2)$ | 2. $3(x^2-2x)-4x^2=1-6x$ | 3. $2x^2-3x(2x-3)-9x=1$ | 4. $4x-8x^2=1-2x(2x-2)$ |
| 5. $2x(3x+2)-7x^2=4x+9$ | 6. $-3(3x^2-x)-7x^2=3x+9$ | 7. $2x(x+2)+2x^2-4x+1=0$ | 8. $4x^2-2(3x+1)+6x+3=0$ |
| 9. $2(2x^2-3x)+6x-4=13x^2$ | 10. $2(3x^2-2x)-7x^2+4x-1=0$ | 11. $3x(2x-1)+10x^2+3x+9=0$ | 12. $4x-17x^2-3(x-2)=7-x(x-1)$ |

6. Resuelve la ecuación:

[Sin sol.]

1. $4-x^2 = 4x-3(2x-2)$
2. $2(3x-2)-x^2 = 8x+13$
3. $3(3x+2)-11x-11 = x^2$
4. $x(3x-3)+7x+5 = 2x^2$
5. $5x^2-5 = 3(2x^2-1)+2x$
6. $8x^2-1 = 3(3x^2+3)+6x$
7. $5x^2-3x(2x-3)-7x = 2$
8. $x^2-3(2x+2)-2x+23 = 0$
9. $3(3x^2+3x)-17x+25 = 8x^2$
10. $3(3x^2+2x)-10x^2-12x = 13$
11. $6x^2-5 = 3x(3x-1)-x(2x+1)$
12. $3(2x^2-3)-8 = 7x^2-2(2x+2)$

7. Resuelve la ecuación:

[$ax^2+c=0$]

1. $\frac{2x^2+3}{2} - \frac{7x^2-1}{6} = 1$
2. $\frac{x^2-3}{2} - \frac{16x^2+11}{30} + 2 = 0$
3. $\frac{x^2-x}{4} - \frac{2x^2-3x-8}{12} = 2$
4. $\frac{3x^2-2}{10} - \frac{2x^2-15}{20} - 1 = 0$
5. $\frac{x^2-4x-4}{8} + \frac{2x^2+x}{2} = x^2$
6. $\frac{2x^2+2x+3}{6} + \frac{x(x-1)}{3} = 2$
7. $\frac{x(x-1)}{6} - \frac{4x^2-5x-14}{30} = 1$
8. $\frac{(2x+1)(x-2)}{6} + 1 = \frac{x(x-1)}{2}$
9. $\frac{x}{3} - \frac{x(x-2)}{3} + \frac{x^2+1}{6} - x = 0$
10. $\frac{8x^2-6x+1}{24} + \frac{2x^2+x}{4} = x^2$
11. $\frac{6x^2+19}{20} + \frac{3x^2+2}{2} - x^2 = 2$
12. $x^2 - \frac{2x^2-3}{4} = \frac{13x^2-10}{24} + 1$
13. $x^2 - \frac{x(x+2)}{3} = \frac{3x^2-12x+1}{18}$
14. $\frac{x(2x+3)}{2} - \frac{3x^2-8}{12} - \frac{3}{2}x = 1$
15. $\frac{2x^2-2x-1}{10} + \frac{x(2x+1)}{5} = x^2$
16. $-\frac{3x^2-4x-16}{10} - \frac{3x(x-1)}{5} = x$
17. $x^2 - \frac{x(x-1)}{2} - \frac{7x^2-6x-4}{12} = x$
18. $x^2 - \frac{x(3x+1)}{9} = \frac{17x^2-3x+1}{27}$
19. $x^2 - \frac{2x(x+1)}{9} = \frac{17x^2-6x+1}{27}$
20. $\frac{11x^2+15x+9}{30} - \frac{x(x-3)}{2} = 2x$
21. $\frac{7x^2+6x+2}{9} + \frac{x(x+2)}{6} - x^2 = x$
22. $\frac{5x-4}{6} - \frac{7}{12}x^2+2 = \frac{x(x-1)}{6} + x$
23. $\frac{11x^2-10x+9}{30} + \frac{x(3x+2)}{6} = x^2$
24. $x^2 - \frac{3x^2-6x+1}{10} = \frac{x(3x-2)}{5} + x$

8. Resuelve la ecuación:

[$ax^2+bx=0$]

1. $\frac{x(19x+3)}{18} - \frac{x(3x-2)}{3} = x$
2. $x^2 - \frac{x(11x-21)}{20} = \frac{x(x+2)}{2}$
3. $\frac{x}{5} + \frac{x(3x-2)}{5} - \frac{x(x-2)}{2} = x$
4. $\frac{x(7x+1)}{12} + \frac{x(x+3)}{3} - x^2 = x$
5. $\frac{x(13x-5)}{18} + \frac{x(3x+2)}{9} = x^2$
6. $\frac{x+2}{2} - \frac{2}{3}x(x+1) - \frac{2}{3}x+x = 1$
7. $\frac{3x^2+3}{4} - 1 = x^2 - \frac{4x^2-x+5}{20}$
8. $\frac{x(11x-4)}{12} - x^2+x = \frac{x(x+2)}{6}$
9. $\frac{x(x+2)}{9} - \frac{2x(2x-11)}{27} = x$
10. $x^2 - \frac{x(2x-1)}{4} - \frac{x(9x+5)}{16} = 0$
11. $x^2 - \frac{x^2-3}{10} - \frac{16x^2+x-14}{20} = 1$
12. $x^2 - \frac{x(2x-3)}{6} - \frac{x(7x-5)}{9} = x$
13. $\frac{x(4x+7)}{10} + \frac{x(3x+1)}{4} - x^2 = x$
14. $\frac{x(11x-13)}{20} + \frac{x(x-1)}{2} = x^2-x$
15. $x^2 - \frac{x^2-2x}{4} - \frac{16x^2-11x}{20} = x$
16. $x^2 - \frac{x(2x-1)}{3} - \frac{x(7x-11)}{18} = x$
17. $\frac{x(7x+3)}{12} + \frac{x(3x+2)}{4} - x^2 = x$
18. $x^2 - \frac{x(10x-13)}{18} = \frac{x(x-1)}{3} + x$
19. $x^2 - \frac{x(x-1)}{3} - \frac{x(17x-20)}{27} = x$
20. $\frac{x(15x+17)}{20} + \frac{x(x+1)}{5} - x = x^2$
21. $2x - \frac{x(x+16)}{10} - \frac{3x(x-1)}{2} = 0$
22. $x^2 - x - \frac{x(15x-17)}{18} = \frac{x(2x-1)}{6}$
23. $\frac{7x^2+2x+8}{16} + \frac{(x+1)(x-1)}{2} = x^2$
24. $\frac{7}{9}x^2 + \frac{x(2x+1)}{9} - \frac{x(x+1)}{6} = x^2$

9. Resuelve la ecuación:

[Dos sol.]

1. $\frac{2(x^2+1)}{5} - \frac{17x+16}{10} = x^2$
2. $\frac{2x^2+7x-21}{16} - \frac{x^2-3}{4} = x$
3. $\frac{x^2+19x+4}{8} - \frac{x(x+3)}{2} = 1$
4. $\frac{7x^2+x-13}{10} + \frac{x^2+2}{2} = x^2$
5. $\frac{2x^2-1}{3} - \frac{2x^2-x+2}{6} = x-1$
6. $\frac{3x^2+8x+8}{24} - \frac{x(x-3)}{4} = x$
7. $x^2 - \frac{x(x-2)}{3} - \frac{x^2-x+4}{6} = x$
8. $\frac{22x^2-x+3}{30} + \frac{x(x+1)}{5} = x^2$
9. $\frac{x^2+1}{6} - \frac{6x-5}{12} + \frac{3}{8}(x+1) = 1$
10. $\frac{x(2x-3)}{8} + x = \frac{7x^2+6x+1}{16}$
11. $\frac{x^2+1}{4} - x^2 = x - \frac{x(11x+13)}{16}$
12. $\frac{x(x+3)}{9} - \frac{4x^2-20x-3}{27} = x$
13. $\frac{8x^2+6x+7}{16} - 1 = \frac{x(2x+3)}{2}$
14. $\frac{2x-1}{4} - \frac{x(x-2)}{2} + \frac{5}{16}x^2 = x$
15. $x^2 - \frac{10x^2-4x+21}{18} = \frac{x^2-2}{2}$
16. $2x^2 - \frac{2x^2-1}{2} - \frac{7x^2+13}{10} = x$
17. $\frac{2x^2-3x+12}{16} + \frac{x(x+1)}{4} = -x$
18. $\frac{x(x+1)}{3} - \frac{(3x-4)(3x-2)}{30} = x$
19. $\frac{8x^2-x-4}{12} + \frac{x(3x-1)}{2} = 2x^2$
20. $\frac{4x^2+2x-3}{8} - \frac{3x(x-1)}{2} = 3x$
21. $\frac{9}{10} + \frac{3}{10}x(x+1) - \frac{x(x+1)}{4} = 1$
22. $\frac{3x^2+15x+13}{20} - \frac{x^2-2}{4} - x = 1$
23. $-\frac{2x^2-x-2}{6} - \frac{x(2x+3)}{3} - x = 1$
24. $\frac{2x^2-3}{4} - x^2 = 1 - \frac{x^2+13x+2}{8}$

$$\begin{array}{llll}
25. x^2 - \frac{x^2-3}{2} - \frac{(3x-4)(x+1)}{10} = 2 & 26. \frac{2x^2+1}{4} - x^2 = 1 - \frac{3x^2-3x+4}{8} & 27. \frac{9x^2+8x+2}{18} + \frac{x(2x-3)}{6} = x^2 & 28. \frac{x^2-3}{4} + \frac{x(x+2)}{2} - \frac{5}{8}x = x^2-1 \\
29. \frac{x(x-3)}{2} - \frac{3x^2-2x-6}{10} + x^2 = 1 & 30. \frac{15x^2+14}{18} + \frac{x(3x-2)}{9} - x^2 = 1 & 31. \frac{3x(x+1)}{4} - x = x^2 - \frac{x^2+8x-2}{12} & 32. \frac{3x(x-1)}{4} - x^2 = 2 - \frac{6x^2+x+8}{12} \\
33. \frac{3x^2-x+8}{20} + \frac{x(3x-2)}{4} - x^2 = 1 & 34. \frac{7x^2-13x+3}{27} - \frac{x(x+1)}{3} + x = 0 & 35. \frac{x(3x+2)}{2} - \frac{7x^2+14x-4}{12} = 1 & 36. 2x - \frac{x(x+1)}{5} - \frac{2x^2+7x-3}{10} = 0 \\
37. \frac{19x^2+14x+4}{12} - \frac{x(3x+2)}{2} = 1 & 38. \frac{8x^2+x+4}{10} + \frac{x(3x+2)}{5} - x^2 = 1 & 39. \frac{x(3x+1)}{12} = x^2 - \frac{17x^2+2x-3}{24} & 40. \frac{x(x+3)}{8} - \frac{x^2-14}{16} - \frac{7}{16}x-1 = 0
\end{array}$$

10. Resuelve la ecuación:

[Sol. doble]

$$\begin{array}{llll}
1. \frac{3x+2}{6} + \frac{3x^2-1}{4} = x & 2. -\frac{3x-23}{27} - \frac{x(x+1)}{3} = 1 & 3. 3x - \frac{2x+9}{6} = \frac{2x(x+1)}{3} & 4. \frac{x(2x+3)}{2} - x = \frac{7x^2-4}{8} \\
5. -\frac{7x(x+4)}{16} - \frac{x(x-2)}{8} = 1 & 6. \frac{6x+1}{18} - \frac{x(x-2)}{2} + x^2 = x & 7. \frac{2}{3}x(x+1) - \frac{1}{6} - \frac{5}{6}x^2 = x & 8. \frac{x(3x+4)}{8} - x-2 = \frac{x^2-3}{2} \\
9. \frac{7}{8} - \frac{x(x+3)}{4} - \frac{x(x-1)}{4} = 1 & 10. x - \frac{x(x+3)}{3} - \frac{24x-11}{27} = 1 & 11. x^2 - \frac{x(2x-1)}{4} - \frac{6x-1}{8} = 0 & 12. 2x - \frac{x^2+1}{3} - \frac{5x^2+12}{12} = 0 \\
13. \frac{x^2+3x+21}{30} + \frac{x(x+3)}{6} = 1 & 14. \frac{5}{6} + \frac{x(x+2)}{2} - \frac{2}{3}x(x+1) = 1 & 15. \frac{4x^2+19x+1}{30} + \frac{x(x-3)}{10} = x & 16. x^2 - \frac{x(x-1)}{2} - \frac{4x^2-x+1}{6} = x \\
17. \frac{2x^2+2x+1}{6} + \frac{x(x+3)}{3} = 2x & 18. \frac{x(x+1)}{2} - \frac{7x^2-2x+7}{16} = x-1 & 19. \frac{2x^2+8x+3}{16} - \frac{x^2+2}{8} - x^2 = x & 20. \frac{x(2x-3)}{6} = x^2 - \frac{7x^2+4x-1}{12} \\
21. \frac{18x^2+4x+9}{8} - 4x = \frac{x(x-2)}{4} & 22. x^2 - \frac{x^2+2}{2} - \frac{4x^2-8x-11}{10} = x & 23. \frac{x(x+3)}{5} - \frac{11x^2+4x-6}{10} + x = 1 & 24. -x+1 = \frac{3x(x-1)}{8} - \frac{7x^2+4x-7}{16}
\end{array}$$

11. Resuelve la ecuación:

[Sin sol. $ax^2+c=0$]

$$\begin{array}{llll}
1. x - \frac{4x^2+9}{24} = \frac{x(x+2)}{2} & 2. \frac{3x^2+2}{10} + \frac{3x^2+2}{5} - x^2 = 1 & 3. x^2 - \frac{20x^2-19}{27} = 1 - \frac{x^2+1}{3} & 4. \frac{2x^2+3}{3} - x^2 = 2 - \frac{8x^2+11}{27} \\
5. \frac{7}{8} - \frac{x(x-1)}{4} - \frac{x(x+1)}{4} = 1 & 6. \frac{7x^2+8x-16}{24} - \frac{x(x-2)}{3} = x & 7. \frac{x(2x-1)}{2} - \frac{17x^2-8x-7}{16} = 1 & 8. \frac{2x(x-1)}{9} - \frac{7x^2-6x-18}{27} = 1 \\
9. -\frac{x(2x+3)}{2} - \frac{3x^2-9x-2}{6} = 3 & 10. x^2 - \frac{x(2x+1)}{2} - \frac{x^2-5x-1}{10} = 1 & 11. \frac{17x^2+8x+1}{16} - \frac{x(2x-3)}{2} = 2x & 12. \frac{2x^2+6x-1}{12} - \frac{x(x-1)}{2} - x^2 = x
\end{array}$$

12. Resuelve la ecuación:

[Sin sol.]

$$\begin{array}{llll}
1. \frac{x^2+1}{3} - \frac{7x^2+6x-2}{18} = 1 & 2. 1 - \frac{x^2+4x+1}{12} = x - \frac{x^2+3}{6} & 3. \frac{x(x+3)}{5} - \frac{x(3x-2)}{10} - x = 1 & 4. \frac{3x^2+1}{2} - \frac{10x^2-2x-1}{6} = 1 \\
5. \frac{x(2x+1)}{12} = x^2 - \frac{21x^2+2}{24} & 6. \frac{2x^2+3}{4} - \frac{7x^2+4x-2}{12} = 2 & 7. 1 - \frac{x(x-2)}{8} = \frac{10x^2+7}{12} - x^2 & 8. \frac{x(x+2)}{5} - \frac{(3x-5)(x+1)}{10} = 3 \\
9. \frac{x^2-7x+2}{18} + \frac{x(2x+1)}{2} = x^2 & 10. \frac{3x^2-2x-2}{6} + \frac{x(x+2)}{3} = x^2 & 11. \frac{2x(x+1)}{3} - \frac{19x^2-6x-5}{30} = x & 12. \frac{x}{3} + \frac{x(x+1)}{3} - \frac{5}{12}(x^2+1) = x
\end{array}$$

13. Resuelve la ecuación:

[$ax^2+c=0$]

$$\begin{array}{llll}
1. \frac{x-14}{3x+6} + \frac{4}{3} + \frac{x+1}{x} = -\frac{x-5}{3x} & 2. \frac{x-4}{x-2} - \frac{x-1}{x+2} + \frac{x^2-x+3}{x^2-4} = 2 & 3. -\frac{x+1}{x-1} - \frac{x-2}{x+1} - \frac{x^2+x-3}{x^2-1} = 1 & 4. \frac{x+1}{x-2} + \frac{x-2}{x+2} + \frac{x^2+x-3}{x^2-4} + 1 = 0 \\
5. \frac{x-2}{x+2} - \frac{x^2+x+2}{x^2-4} - \frac{x+1}{x-2} = 6 & 6. -\frac{1}{4} - \frac{x-1}{x} - \frac{x^2+x-8}{2x^2} = \frac{x+1}{2x} & 7. \frac{x+19}{x-3} - \frac{1-x-x^2}{x^2-3x} + \frac{x+1}{x} + 6 = 0 & 8. \frac{3}{2} - \frac{x}{x+1} - \frac{x^2+x-10}{2x^2+2x} = \frac{x+1}{2x} \\
9. \frac{x-1}{9x} - \frac{1}{x} = \frac{x-18}{9x+9} - \frac{x^2-x+1}{x^2+x} & 10. \frac{x^2+x+4}{4x^2-6x} + \frac{x+1}{2x} + \frac{x-12}{4x-6} = 2 & 11. \frac{2x-3}{18x-12} + \frac{x+1}{3x} = \frac{4}{3} - \frac{6x-1}{6x} & 12. -\frac{x+1}{6x} - \frac{x+1}{x} - \frac{x^2+x+6}{6x^2-6x} = \frac{1}{6}
\end{array}$$

$$\begin{array}{llll}
 13. 13 + \frac{x+1}{x-1} = \frac{2-x}{x+1} - \frac{x^2+x+9}{x^2-1} & 14. \frac{x-12}{x-1} = 2 - \frac{x+10}{x} - \frac{x^2+x+1}{x^2-x} & 15. \frac{2-x}{x+3} - \frac{x^2+x+29}{x^2-9} - \frac{x+1}{x-3} = 6 & 16. \frac{4x+5}{8x+4} + \frac{4x-7}{8x-4} + \frac{x^2+x+1}{4x^2-1} = 1 \\
 17. \frac{x-1}{x+1} - \frac{x^2+x+13}{4x^2-4} + \frac{x+10}{4x+4} = 5 & 18. \frac{4}{3} - \frac{x-4}{3x} - \frac{x+1}{x} - \frac{x^2+x-1}{3x^2} = 0 & 19. 4 - \frac{x^2+x+1}{x^2-4} = \frac{2x+7}{2x+4} + \frac{2x-9}{2x-4} & 20. \frac{x^2+x-11}{x^2-1} + \frac{x+1}{x-1} - \frac{2-x}{x+1} + 1 = 0 \\
 21. \frac{6-x}{3x} - \frac{3x^2+3x-1}{3x^2} - \frac{x+1}{x} = 3 & 22. \frac{3}{2} - \frac{2x-9}{4x-6} - \frac{x^2+x-13}{2x^2-3x} = \frac{x+1}{x} & 23. \frac{1-2x}{2x} - \frac{x-19}{2x+6} - \frac{x^2+x+1}{x^2+3x} = 2 & 24. \frac{2}{3} - \frac{x+1}{3x-1} - \frac{x^2+x-7}{9x^2-1} = \frac{3x-4}{9x+3}
 \end{array}$$

14. Resuelve la ecuación:

[$ax^2+bx=0$]

$$\begin{array}{llll}
 1. \frac{x-3}{x-2} + \frac{x(x+1)}{x^2-4} + \frac{x+1}{x+2} = 2 & 2. \frac{x-1}{x+1} = 1 - \frac{x+1}{x-1} - \frac{x^2+x-3}{x^2-1} & 3. \frac{1-x}{x+2} - \frac{x+1}{x-2} - \frac{x(x+1)}{x^2-4} = 1 & 4. \frac{x-1}{x+1} - \frac{x^2-x+1}{x^2-1} - 2 = \frac{x+2}{x-1} \\
 5. 1 - \frac{x+1}{x+3} - \frac{x^2+x-3}{x^2-9} = \frac{x-1}{x-3} & 6. \frac{1-x}{x+1} = \frac{x+3}{x-1} - \frac{x^2+x+9}{x^2-1} - 5 & 7. \frac{x-2}{x-1} - \frac{x^2+x+3}{x^2-1} + \frac{x-1}{x+1} = 4 & 8. \frac{x^2-x+6}{x^2-9} + \frac{x-7}{x-3} - \frac{x-1}{x+3} = 2 \\
 9. \frac{x+1}{x+1} + \frac{x^2+x+1}{x^2-1} + \frac{x-2}{x-1} = 6 & 10. \frac{x-1}{x-2} - \frac{4-x-x^2}{x^2-4} + \frac{x+1}{x+2} = 2 & 11. \frac{x+1}{x-1} = \frac{5-x}{x+1} - \frac{x^2+x-5}{x^2-1} - 1 & 12. \frac{5-x}{x+2} - \frac{x^2+x-8}{x^2-4} - \frac{x+1}{x-2} = 1 \\
 13. \frac{x^2+x-13}{x^2-1} + \frac{x-5}{x+1} + \frac{x+1}{x-1} = 7 & 14. 2 - \frac{x}{x-3} - \frac{x^2+x-15}{x^2-9} = \frac{x+1}{x+3} & 15. \frac{x-3}{x-2} + \frac{x^2+x-16}{x^2-4} + \frac{x+1}{x+2} = 6 & 16. \frac{x+1}{x-3} - \frac{1-x}{x+3} - \frac{24-x-x^2}{x^2-9} = 2 \\
 17. \frac{x^2+x-4}{4x^2-1} + \frac{x-2}{2x+1} + \frac{x+1}{2x-1} = 1 & 18. \frac{3x+2}{3x+9} + \frac{3x-8}{3x-9} + \frac{x^2+x+1}{x^2-9} = 1 & 19. \frac{x+1}{3x-2} - \frac{1-x}{3x+2} - \frac{8x-x^2}{9x^2-4} = 1 & 20. \frac{x+1}{3x+2} + \frac{x(x+1)}{9x^2-4} = \frac{2}{3} - \frac{3x-1}{9x-6} \\
 21. \frac{1}{2} - \frac{8x+17}{8x+8} = \frac{x-1}{4x+4} - \frac{8x-11}{8x-8} & 22. \frac{2}{3} - \frac{x+1}{3x+1} - \frac{x^2+x+3}{9x^2-1} = \frac{3x-8}{9x-3} & 23. \frac{x+1}{2x-3} = 1 - \frac{x-1}{2x+3} - \frac{x^2+x-15}{4x^2-9} & 24. \frac{6x-7}{18x-6} = \frac{2}{3} - \frac{2x+1}{6x+2} - \frac{x^2+x+1}{9x^2-1}
 \end{array}$$

15. Resuelve la ecuación:

[Dos sol.]

$$\begin{array}{llll}
 1. \frac{x+1}{2x} + 4 = \frac{1-x}{x} - \frac{x+5}{2x-2} & 2. \frac{x+1}{4x} + \frac{x^2+x+1}{x^2} + \frac{x+1}{2x} = 1 & 3. \frac{x-1}{x} + \frac{1}{3} = \frac{x-1}{3x} - \frac{x^2-x-1}{3x^2} & 4. \frac{x+1}{x+2} = 1 - \frac{x+1}{x-2} - \frac{x^2+x-3}{x^2-4} \\
 5. \frac{x+1}{x-2} + \frac{x^2+x+3}{x^2-4} + \frac{x+1}{x} = 1 & 6. \frac{6-x}{x-1} - \frac{x}{x+1} - \frac{x^2+x+1}{x^2-1} = 1 & 7. \frac{x-9}{2x} + \frac{x^2+x+2}{x^2} + \frac{x+1}{x} = 2 & 8. \frac{x+1}{x+2} = 1 - \frac{x-5}{x-2} - \frac{x^2+x+9}{x^2-4} \\
 9. \frac{x+7}{x-1} + \frac{x-1}{x+1} - \frac{x^2+x+8}{x^2-1} = 3 & 10. \frac{3}{2} - \frac{x^2+x+3}{6x^2} - \frac{x-1}{2x} = \frac{x+1}{x} & 11. \frac{x-2}{4x} + \frac{x+1}{2x} = \frac{1}{2} - \frac{x^2+x-1}{4x^2} & 12. \frac{9x-1}{6x-2} - \frac{x+1}{2x} - \frac{x^2+x+1}{3x^2-x} = 1 \\
 13. \frac{x-1}{x} + \frac{x-9}{2x-1} + \frac{x^2+x+1}{2x^2-x} = 4 & 14. \frac{x+1}{x} + \frac{x+1}{5x} = \frac{4}{5} - \frac{x^2+x+2}{5x^2} & 15. \frac{x-4}{x-2} + \frac{x+1}{x+2} + \frac{x^2+x-13}{x^2-4} = 6 & 16. \frac{x+1}{x-2} - \frac{5-x}{x+2} - \frac{15-x-x^2}{x^2-4} = 1 \\
 17. \frac{9-x}{x+2} - \frac{x^2+x-13}{x^2-4} - 1 = \frac{x+1}{x-2} & 18. \frac{3}{4} - \frac{8x-7}{8x-8} - \frac{x+1}{4x-4} = \frac{8x+5}{8x+8} & 19. \frac{x+1}{x-3} - \frac{32-x-x^2}{x^2-9} - \frac{3-x}{x+3} = 2 & 20. 6 + \frac{x+2}{x+1} + \frac{x+15}{x-1} + \frac{x^2+x+1}{x^2-1} \\
 21. \frac{1}{8} - \frac{x^2+x+1}{2x^2} - \frac{4x+9}{8x} = \frac{x+1}{4x} & 22. \frac{x-3}{x+3} = \frac{2-x}{3x} - \frac{x^2+x+1}{x^2+3x} - \frac{1}{3} & 23. 5 - \frac{x^2+x+6}{x^2-3x} - \frac{x-13}{x-3} = \frac{x+1}{x} & 24. \frac{1}{3} - \frac{x-7}{3x-3} - \frac{x^2+x+1}{x^2-x} = \frac{x+9}{3x} \\
 25. 1 - \frac{x^2+x+3}{9x^2-1} - \frac{x+1}{3x+1} = \frac{x+1}{3x-1} & 26. \frac{13-x}{x-2} - \frac{(x+2)(x-1)}{x^2-2x} - \frac{x+1}{x} = 1 & 27. \frac{3}{2} - \frac{x+1}{x} - \frac{x^2+x-3}{2x^2+x} = \frac{2x-7}{4x+2} & 28. \frac{x+1}{x-1} - \frac{15-x}{x+1} - \frac{26-x-x^2}{x^2-1} = 6 \\
 29. \frac{2x-3}{6x+2} + \frac{2x-1}{6x-2} + \frac{x^2+x+1}{9x^2-1} = 1 & 30. 1 - \frac{x^2+x+1}{x^2-4} - \frac{2x-9}{2x-4} = \frac{2x-7}{2x+4} & 31. \frac{2}{3} - \frac{x+1}{3x-2} - \frac{x(x+1)}{9x^2-4} = \frac{3x+1}{9x+6} & 32. \frac{1}{6} - \frac{x-3}{6x} - \frac{x^2-x-9}{6x^2-6x} = \frac{x+1}{6x-6} \\
 33. \frac{15-x}{x+2} - \frac{x^2+x-25}{x^2-4} - \frac{x+1}{x-2} = 1 & 34. 1 - \frac{x^2+x-5}{2x^2} - \frac{x-4}{2x} = \frac{x^2+x+1}{x^2} & 35. \frac{1}{2} - \frac{(x+2)(x-1)}{6x^2} - \frac{x+1}{3x} = \frac{x-4}{6x} & 36. \frac{x+13}{x-3} + \frac{x+1}{x+3} = -1 - \frac{x^2+x-31}{x^2-9} \\
 37. \frac{x+1}{x-3} + \frac{x^2+x+8}{x^2-9} + \frac{x+1}{x+3} + 1 = 0 & 38. 1 - \frac{x+1}{x} - \frac{x+1}{3x+1} - \frac{x^2+x+2}{3x^2+x} = 0 & 39. \frac{x+20}{x-1} - \frac{x^2+x+39}{x^2-1} + \frac{x-1}{x+1} = 9 & 40. \frac{2}{3} - \frac{3x-7}{9x+3} - \frac{x^2+x+1}{9x^2-1} = \frac{x+4}{3x-1}
 \end{array}$$

16. Resuelve la ecuación:

[Sol. doble]

$$\begin{array}{llll}
1. \frac{x+1}{x} + \frac{x-7}{x-3} = 2 - \frac{x^2+x+4}{x^2-3x} & 2. \frac{x+1}{x} + \frac{x-6}{x-2} + \frac{x^2+x+3}{x^2-2x} = 2 & 3. \frac{x+1}{4x-6} + \frac{3x-4}{6x} + \frac{3x-8}{6x-9} = 1 & 4. \frac{x+1}{x-2} + \frac{x+4}{x+2} = 2 - \frac{x^2+x+7}{x^2-4} \\
5. \frac{11-x}{x+1} - \frac{x-2}{x-1} - \frac{x^2+x+1}{x^2-1} = 1 & 6. \frac{1}{2} - \frac{2x-3}{4x} - \frac{x+1}{x} = \frac{4x-17}{4x+8} & 7. \frac{x-7}{x+1} + \frac{x+15}{x} + \frac{x^2+x+1}{x^2+x} = 2 & 8. \frac{x+6}{x-2} + \frac{x+1}{x} = -6 - \frac{x^2+x+3}{x^2-2x} \\
9. \frac{2-3x}{9x+3} - \frac{x+1}{x} - \frac{x+1}{3x+1} = \frac{11}{3} & 10. 7 - \frac{x-8}{3x+2} - \frac{x^2+x+1}{3x^2-2x} = \frac{x+1}{x} & 11. \frac{x-24}{3x-2} + \frac{x+1}{x} + \frac{x^2+x+1}{2x^2-2x} = 7 & 12. \frac{x-10}{x+2} + \frac{x+1}{x-2} = 2 - \frac{x^2+x-14}{x^2-4} \\
13. -6 - \frac{x^2+x+8}{2x^2+2x} - \frac{2x+9}{2x+2} = \frac{x+1}{2x} & 14. \frac{4x-5}{8x-4} + \frac{4x-1}{8x+4} + \frac{x^2+x+1}{4x^2-1} = 1 & 15. \frac{x+1}{x-1} + 1 = -\frac{x+10}{x+1} - \frac{x^2+x+19}{x^2-1} & 16. \frac{x+6}{3x-6} + \frac{x+1}{x-2} = \frac{1}{3} - \frac{x^2+x+9}{3x^2-6x} \\
17. \frac{2x+1}{2x+4} + \frac{2x-7}{2x-4} + \frac{x^2+x+1}{x^2-4} = 2 & 18. 2 - \frac{2x+7}{2x+6} - \frac{x^2+x+1}{x^2-9} = \frac{2x-5}{2x-6} & 19. \frac{x-1}{x+1} - \frac{x^2+x+14}{x^2-1} + \frac{x+4}{4x+4} = \frac{5}{4} & 20. \frac{2}{3} - \frac{x+1}{6x-3} - \frac{x^2+x+4}{6x^2-3x} = \frac{x}{2x-1} \\
21. \frac{x-1}{x+1} - \frac{x^2+x+29}{x^2-1} + \frac{x+10}{x-1} = 17 & 22. 2 - \frac{3x-7}{3x} - \frac{x^2+x+1}{x^2-3x} = \frac{3x-34}{6x-18} & 23. \frac{6-x}{2x-2} - \frac{x+1}{x-1} - \frac{2x^2+2x+1}{2x^2-2x} = 2 & 24. \frac{19-2x}{2x+4} - \frac{2x+5}{2x-4} - \frac{x^2+x+1}{x^2-4} = 6
\end{array}$$

17. Resuelve la ecuación:

[Sol. falsa]

$$\begin{array}{llll}
1. 1 - \frac{x^2+x-8}{x^2-1} - \frac{x+1}{x-1} = \frac{x-3}{x+1} & 2. 2 - \frac{x^2-x+2}{x^2-1} + \frac{x-1}{x+1} = \frac{x-6}{x-1} & 3. 4 - \frac{x-1}{x+1} = \frac{x+1}{x} - \frac{x^2+x+2}{x^2+x} & 4. \frac{x^2+x+1}{x^2-x} + \frac{x-4}{x-1} + \frac{x-1}{x} = 2 \\
5. \frac{x-3}{x-1} - \frac{x^2+x+4}{x^2-1} + \frac{x-1}{x+1} = 4 & 6. \frac{x+7}{x+3} + \frac{x+1}{x} + \frac{x^2+x+6}{x^2+3x} = 1 & 7. \frac{x+3}{3x} + \frac{x-1}{2x-1} = \frac{2}{3} - \frac{x+1}{6x-3} & 8. 6 - \frac{x-5}{x-1} - \frac{x^2+x+2}{x^2-x} = \frac{x+1}{x} \\
9. \frac{x-7}{x-1} + \frac{x^2+x+4}{x^2-x} + \frac{x+1}{x} = 5 & 10. 2 - \frac{x^2-x+6}{x^2-4} + \frac{x-1}{x+2} = \frac{x-7}{x-2} & 11. \frac{x+4}{x} + \frac{1+x}{2+x} - \frac{4-x-x^2}{x^2+2x} = 6 & 12. 2 - \frac{x^2+x-18}{x^2-9} - \frac{x+1}{x+3} = \frac{x-1}{x-3} \\
13. \frac{x+1}{x+2} - \frac{1-x}{x-2} - \frac{10-x-x^2}{x^2-4} = 2 & 14. 2 - \frac{x^2+x-36}{x^2-9} - \frac{x+1}{x-3} = \frac{x-4}{x+3} & 15. \frac{13-2x}{8x-12} - \frac{1+x}{2x} - \frac{1+x}{2x-3} = \frac{1}{4} & 16. 1 - \frac{x^2+x+1}{x^2-1} - \frac{2x+1}{2x+2} = \frac{2x-5}{2x-2} \\
17. \frac{1}{3} - \frac{x-7}{3x-3} - \frac{x^2+x+4}{3x^2-3x} = \frac{x+1}{3x} & 18. \frac{2x-7}{2x-2} + \frac{2x+3}{2x+2} + \frac{x^2+x+1}{x^2-1} = 1 & 19. 2 - \frac{2x+3}{2x-2} - \frac{x^2+x+1}{x^2-1} = \frac{2x+3}{2x+2} & 20. \frac{x+1}{2x+3} + \frac{x-2}{2x-3} = \frac{3}{4} - \frac{2x+5}{8x+12} \\
21. 6 - \frac{x^2+x-10}{x^2-1} - \frac{x-4}{x+1} - \frac{x+1}{x-1} = 0 & 22. \frac{x}{x-3} + \frac{x+1}{x+3} - \frac{(6+x)(5-x)}{x^2-9} = 4 & 23. \frac{2+x}{3x} + \frac{1+x}{2x+3} - \frac{3-x-x^2}{6x^2+9x} = \frac{2}{3} & 24. \frac{6x+1}{6x+18} = 2 - \frac{6x-31}{6x-18} - \frac{x^2+x+1}{x^2-9}
\end{array}$$

18. Resuelve la ecuación:

[Sin sol. $ax^2+c=0$]

$$\begin{array}{llll}
1. 2 - \frac{x^2-x+1}{x^2-4} = \frac{x-4}{x-2} - \frac{x-1}{x+2} & 2. \frac{x^2+x+2}{x^2-x} + \frac{x-3}{x-1} + \frac{x+1}{x} = 2 & 3. \frac{x^2+x+4}{x^2-1} + \frac{x-2}{x+1} + \frac{x+1}{x-1} = 2 & 4. 7 - \frac{x-14}{x-2} - \frac{x^2+x+1}{x^2-2x} = \frac{x+1}{x} \\
5. 3 - \frac{x+7}{3x+1} - \frac{x^2+x+1}{3x^2+x} = x-2x & 6. \frac{x-1}{x+2} - \frac{x-4}{x-2} - \frac{x^2-x+46}{x^2-4} = 8 & 7. \frac{3}{2} - \frac{2x-1}{4x-6} - \frac{x^2+x+1}{2x^2-3x} = \frac{x-1}{x} & 8. \frac{2-x}{x+1} - \frac{x^2+x+11}{x^2-1} - \frac{x+1}{x-1} = 13 \\
9. \frac{1+x}{x+3} - \frac{(2+x)(1-x)}{x^2+2x} + \frac{1+x}{x} = 2 & 10. \frac{4x+1}{8x+4} + \frac{4x-3}{8x-4} + \frac{x^2+x+1}{4x^2-1} = 1 & 11. \frac{x+18}{x} - \frac{x^2+x+19}{x^2+x} + \frac{x-1}{x+1} = 17 & 12. \frac{10-x}{4x-4} - \frac{x^2+x+13}{4x^2-4} - \frac{x+1}{x-1} = \frac{3}{4}
\end{array}$$

19. Resuelve la ecuación:

[Sin sol.]

$$\begin{array}{llll}
1. 2 - \frac{x-2}{x-1} - \frac{x^2+x+1}{x^2-1} = \frac{x-1}{x+1} & 2. 2 - \frac{x-2}{x+3} - \frac{x^2+x+1}{x^2-9} = \frac{x-5}{x-3} & 3. 2 - \frac{x-2}{x+2} - \frac{x^2+x+3}{x^2+2x} = \frac{x+1}{x} & 4. \frac{3x-4}{9x} + \frac{x+1}{x} = 2 - \frac{9x+1}{9x+27} \\
5. 2 - \frac{x+4}{x+2} - \frac{x^2+x+11}{x^2-4} = \frac{x+1}{x-2} & 6. \frac{6x+5}{6x} + \frac{3x+1}{6x+9} = \frac{3}{2} - \frac{x+1}{4x+6} & 7. \frac{1+x}{x} + \frac{1+x}{3x-1} - \frac{24-x-x^2}{x^2-1} = 2 & 8. \frac{x-14}{x} + \frac{x+46}{3x+1} + \frac{x^2+x+1}{3x^2+x} = 2 \\
9. \frac{x^2+x+1}{4x^2-1} + \frac{4x-9}{8x+4} + \frac{4x+3}{8x-4} = 1 & 10. 2 - \frac{3x+4}{3x+9} - \frac{x^2+x+1}{x^2-9} = \frac{3x-13}{3x-9} & 11. \frac{x-16}{3x+3} + \frac{x+22}{3x} + \frac{x^2+x+1}{x^2+x} = \frac{4}{3} & 12. \frac{3}{2} - \frac{2x-3}{4x} - \frac{2x^2+2x+1}{8x^2+12x} = \frac{x+1}{x}
\end{array}$$

1.1. ± 1	1.2. $\pm \frac{1}{4}$	1.3. ± 2	1.4. $\pm \frac{1}{3}$	1.5. ± 1	1.6. ± 3	1.7. ± 2	1.8. $\pm \frac{3}{2}$	1.9. ± 1	1.10. $\pm \frac{1}{3}$	1.11. ± 2	1.12. $\pm \frac{1}{3}$	1.13. ± 1	1.14. $\pm \frac{3}{4}$	1.15. $\pm \frac{3}{2}$	1.16. $\pm \frac{3}{2}$
1.17. ± 2	1.18. ± 1	1.19. $\pm \frac{3}{4}$	1.20. ± 3	1.21. $\pm \frac{4}{3}$	1.22. $\pm \frac{1}{4}$	1.23. ± 1	1.24. $\pm \frac{3}{4}$	2.1. -2, 0	2.2. 0, $\frac{1}{3}$	2.3. 0, 1	2.4. $-\frac{2}{3}$, 0	2.5. 0, 1	2.6. $-\frac{3}{4}$, 0	2.7. -1, 0	
2.8. -1, 0	2.9. -1, 0	2.10. $-\frac{1}{2}$, 0	2.11. 0, $\frac{3}{4}$	2.12. 0, 2	2.13. 0, $\frac{3}{2}$	2.14. 0, 3	2.15. 0, $\frac{2}{3}$	2.16. 0, 1	2.17. 0, $\frac{1}{4}$	2.18. -1, 0	2.19. -1, 0	2.20. 0, $\frac{3}{2}$	2.21.		
0, 2	2.22. 0, $\frac{4}{3}$	2.23. -3, 0	2.24. $-\frac{1}{2}$, 0	3.1. -2, $\frac{1}{2}$	3.2. -2, $\frac{1}{3}$	3.3. -1, $\frac{2}{3}$	3.4. -3, -2	3.5. -2, 1	3.6. -1, $-\frac{1}{4}$	3.7. $-\frac{2}{3}$, $\frac{4}{3}$	3.8. $\frac{1}{2}$, 2	3.9. -1, $\frac{1}{3}$	3.10. $-\frac{2}{3}$, $\frac{4}{3}$		
3.11. $-\frac{1}{2}$, 2	3.12. $-\frac{1}{4}$, 1	3.13. $-\frac{1}{2}$, 1	3.14. $\frac{1}{2}$, 2	3.15. -2, $\frac{2}{3}$	3.16. -1, 2	3.17. -1, $\frac{1}{3}$	3.18. $\frac{1}{4}$, 1	3.19. -3, 1	3.20. $-\frac{1}{3}$, $\frac{3}{2}$	3.21. -2, -1	3.22. $-\frac{3}{2}$, 1	3.23. -3,			
$\frac{1}{4}$	3.24. -1, $\frac{3}{2}$	3.25. $\frac{1}{2}$, $\frac{3}{4}$	3.26. $\frac{1}{3}$, 2	3.27. $\frac{2}{3}$, $\frac{3}{2}$	3.28. $-\frac{2}{3}$, 3	3.29. -4, $\frac{4}{3}$	3.30. $\frac{1}{2}$, $\frac{3}{2}$	3.31. $-\frac{3}{4}$, $-\frac{2}{3}$	3.32. $-\frac{3}{2}$, 2	3.33. $-\frac{3}{4}$, $\frac{3}{2}$	3.34. $-\frac{1}{4}$, 1	3.35. $-\frac{4}{3}$, $-\frac{3}{4}$			
3.36. -1, $\frac{1}{2}$	3.37. -4, 1	3.38. -3, $\frac{1}{3}$	3.39. -2, $\frac{1}{2}$	3.40. -2, $\frac{1}{2}$	4.1. -1	4.2. -1	4.3. -1	4.4. $\frac{1}{3}$	4.5. $\frac{1}{4}$	4.6. -4	4.7. 1	4.8. $\frac{1}{4}$	4.9. $-\frac{1}{2}$	4.10. $\frac{1}{2}$	4.11. -4
4.12. -2	4.13. -1	4.14. $\frac{3}{4}$	4.15. -1	4.16. $-\frac{3}{2}$	4.17. $-\frac{1}{2}$	4.18. $-\frac{4}{3}$	4.19. 4	4.20. $\frac{3}{2}$	4.21. $\frac{4}{3}$	4.22. $-\frac{4}{3}$	4.23. 2	4.24. $\frac{3}{4}$	5.1. s.s.r.	5.2. s.s.r.	5.3.
s.s.r.	5.4. s.s.r.	5.5. s.s.r.	5.6. s.s.r.	5.7. s.s.r.	5.8. s.s.r.	5.9. s.s.r.	5.10. s.s.r.	5.11. s.s.r.	5.12. s.s.r.	6.1. s.s.r.	6.2. s.s.r.	6.3. s.s.r.	6.4. s.s.r.		
6.5. s.s.r.	6.6. s.s.r.	6.7. s.s.r.	6.8. s.s.r.	6.9. s.s.r.	6.10. s.s.r.	6.11. s.s.r.	6.12. s.s.r.	7.1. ± 2	7.2. ± 2	7.3. ± 4	7.4. $\pm \frac{3}{2}$	7.5. ± 2	7.6. $\pm \frac{3}{2}$	7.7. ± 4	
7.8. ± 2	7.9. ± 1	7.10. $\pm \frac{1}{2}$	7.11. $\pm \frac{1}{4}$	7.12. ± 2	7.13. $\pm \frac{1}{3}$	7.14. $\pm \frac{2}{3}$	7.15. $\pm \frac{1}{2}$	7.16. $\pm \frac{4}{3}$	7.17. ± 2	7.18. ± 1	7.19. $\pm \frac{1}{2}$	7.20. $\pm \frac{3}{2}$	7.21. ± 2	7.22. $\pm \frac{4}{3}$	
7.23. $\pm \frac{3}{2}$	7.24. ± 1	8.1. 0, 3	8.2. 0, 1	8.3. 0, 2	8.4. 0, 1	8.5. 0, 1	8.6. 0, $\frac{1}{4}$	8.7. -1, 0	8.8. 0, $\frac{4}{3}$	8.9. 0, 1	8.10. -1, 0	8.11. 0, $\frac{1}{2}$	8.12. 0, $\frac{1}{2}$	8.13. 0,	