1. Resuelve la ecuación:

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

2. Resuelve la ecuación:

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

3. Resuelve la ecuación:

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

4. Resuelve la ecuación:

1. $\frac{x-5}{2x+1}+\frac{x+3}{x} = 2-\frac{x^2+x+1}{2x^2+x}$
2. $2-\frac{x-2}{x}-\frac{x^2+x-5}{2x^2-3x} = \frac{x+1}{2x-3}$
3. $1-\frac{x+7}{4x-4} = \frac{x-1}{x+1}-\frac{x^2+x+15}{4x^2-4}$
4. $\frac{x+1}{2x+3}+\frac{x+1}{x} = 2-\frac{x^2+x-7}{2x^2+3x}$
5. $\frac{5}{3}-\frac{3x-17}{9x-3}-\frac{x^2+x+1}{3x^2-x} = \frac{x+2}{x}$
6. $3-\frac{x^2+x-25}{x^2-9}-\frac{x}{x-3}-\frac{x+1}{x+3} = 0$
7. $\frac{1}{3}-\frac{x-6}{9x-9}-\frac{x+2}{9x+9} = \frac{x^2+x+1}{9x^2-9}$
8. $\frac{4x-17}{4x-8}+\frac{4x+17}{4x+8} = 3-\frac{x^2+x+1}{x^2-4}$

5. Resuelve la ecuación:

1. $3(2x+2)-x^2+3 = 6x$
2. $11x-3(3x+1)+1 = x^2$
3. $10x-7x^2 = 4-x(x+1)$
4. $1-7x = 3\left(x^2-2x\right)-x^2$
5. $x(2x-1)-6x = 5x^2+4$
6. $2x(3x-1)-2x^2+x = 3$
7. $9x-4x^2 = 18-3(x+3)$
8. $3x(x+2)-2x^2-1 = 6x$
9. $5-2x^2 = 5x-2(2x-2)$
10. $4x^2-4x+5 = 2(2x+1)$
11. $6x^2-3x(3x+1)+4 = x$
12. $3x(x+3)-5x^2 = 6x+1$
13. $2(2x+1)-4x = 4x^2+3$
14. $2x(x+2)-3x^2 = 7x-4$
15. $10x^2+4x = 3\left(3x^2+x\right)$
16. $2x^2+8x = x(3x+2)+9$
17. $2\left(2x^2+3x\right)-9x = 5x^2$
18. $x(x+2)+11x+4 = -2x^2$
19. $3(x+3)-6x^2-14x = 12$
20. $3(2x-3)-11x+6 = 2x^2$
21. $2x(x+2)-x^2-5x-6 = 0$
22. $2-4x^2 = 15x-2(3x-2)$
23. $2(x+3)+10 = 3x^2+10x$
24. $3(x+2)+2x^2-2x-7 = 0$
25. $12x-3x(x+3) = 2-2x^2$
26. $8x^2-3\left(3x^2-x\right) = 2x-2$
27. $3x+4 = 2x(2x-1)+2x^2$
28. $3(2x+3)-3x^2 = 2x+10$
29. $5x^2+2x-4 = 2\left(3x^2-x\right)$
30. $3x^2+4 = 2x(2x-2)+4x$
31. $5x^2+6x+5 = 2\left(2x^2+x\right)$
32. $18x^2-3x(2x-1)-2x = 6$
33. $6x^2-3x(3x-3)-11x = 0$
34. $3\left(3x^2-3\right)-18x^2+13 = 0$
35. $10-4x = 9x^2-2\left(3x^2-3\right)$
36. $3x(x-1)-7x^2+3x+9 = 0$
37. $4-10x = 2x(3x-3)-3x^2$
38. $2(2x-3)-2x^2+3x+3 = 0$
39. $x(2x+2)-18x^2 = 9-22x$
40. $2x-9 = 5x^2-2\left(2x^2+2x\right)$
41. $2\left(2x^2-2x\right)-6x^2+3x = 0$
42. $-2\left(2x^2-x\right)-15x-6 = 2x^2$
43. $3x^2-2\left(3x^2-2x\right)-11x = 4$
44. $9x-10x^2 = 1-2\left(3x^2-2x\right)$

45. $x(2x-2)-10x^2-8x-3=0$ **46.** $6x^2-3(3x+3)+10x+8=0$ **47.** $3x(3x+1)-12x^2-7x-1=0$ **48.** $12x-3(2x-3)-9x^2-10=0$

6. Resuelve la ecuación:

1. $\frac{x+4}{6}-\frac{x(x-2)}{4}=1$ **2.** $x^2-\frac{3x^2-2}{5}=\frac{x^2}{2}$ **3.** $\frac{x(x+2)}{2}-\frac{4x^2+1}{10}=x$ **4.** $\frac{x(x+3)}{2}=x-\frac{3(x+1)}{8}$

5. $\frac{2x^2+3}{2}-\frac{11x^2-6}{10}=2$ **6.** $\frac{x(x-2)}{4}-x=1-\frac{x(x+2)}{8}$ **7.** $1-\frac{x(x+1)}{4}-\frac{x^2-x+4}{8}=0$ **8.** $\frac{x(x+1)}{3}-\frac{5x^2-4}{6}=2-x^2$

9. $x^2-\frac{x(7x-1)}{8}=\frac{x(2x+1)}{12}$ **10.** $2x^2-\frac{7x^2+3}{10}=\frac{x(3x-1)}{2}$ **11.** $\frac{x(2x-1)}{8}-\frac{x^2-3x-12}{16}=1$ **12.** $\frac{x^2+1}{2}+\frac{x(x+2)}{3}-1-x^2=0$

13. $\frac{2x^2+3}{9}-\frac{5x^2-4x-18}{27}=1$ **14.** $\frac{6x^2+x+1}{16}-\frac{x(x-2)}{2}-x=0$ **15.** $\frac{x(x+2)}{9}-\frac{2x^2-19x-1}{27}=x$ **16.** $\frac{x(3-x)}{4}=x-\frac{20x^2+4x-1}{16}$

17. $\frac{x(x+1)}{3}=1-\frac{7x^2-4x-4}{12}$ **18.** $\frac{x(x+2)}{8}-\frac{3-x-17x^2}{24}=x^2$ **19.** $\frac{1-3x^2}{9}=1-\frac{12x^2+5x+12}{27}$ **20.** $x+\frac{x^2+1}{8}-\frac{3+13x-2x^2}{16}=0$

21. $\frac{3-x^2}{4}-\frac{2x^2-11x-8}{16}-x=1$ **22.** $x-\frac{3x(x+1)}{4}=1-\frac{9x^2-x+6}{8}$ **23.** $\frac{7x^2+4x+10}{18}-\frac{x(2x+1)}{9}=1$ **24.** $\frac{3x(x+1)}{5}-\frac{1+3x-2x^2}{10}=x^2$

7. Resuelve la ecuación:

1. $\frac{x+2}{2x}-\frac{x-8}{2x+2}+\frac{x-1}{x+1}=4$ **2.** $\frac{1-x}{2x}-\frac{x+7}{2x-2}=1+\frac{x+1}{x-1}$ **3.** $\frac{x+1}{x}+\frac{x-4}{2x}-\frac{1-x}{2x+4}=3$ **4.** $\frac{5}{6}-\frac{3x+7}{18x-6}-\frac{x+1}{3x-1}=\frac{x-1}{2x}$

5. $\frac{1-x}{x-3}-\frac{1+x}{x}=1-\frac{3-x-x^2}{x^2-3x}$ **6.** $1-\frac{2x+7}{4x+2}-\frac{x^2+x+1}{4x^2-1}=\frac{2x-9}{4x-2}$ **7.** $\frac{x-5}{3x-1}+\frac{x+2}{x}=3-\frac{x^2+x+1}{3x^2-x}$ **8.** $3+\frac{1+x}{x-1}-\frac{13-x}{x+1}-\frac{8-x-x^2}{x^2-1}=0$

8. Resuelve la ecuación:

1. $2x^2-x^4-3=2x^2-4$ **2.** $6x^2-x-4=x^4-x+x^2$ **3.** $x-x^4-16-x^2=x-9x^2$ **4.** $5x^2-1-x^4-2x=3-2x$

5. $x^4-2x^2=1-4x^2+2x^4$ **6.** $3+24x^2=x^4+147-x^2$ **7.** $3x^2-x^3=x^4-x^3+x^2+1$ **8.** $2x-x^4-1=2x-8x^2+15$

9. $x-2-16x^4=7-25x^2+x$ **10.** $7x^2-19x^4=1-3x^4-x^2$ **11.** $x-9x^4+81x^2=x-x^2+9$ **12.** $x-x^4+2x^2+16=2x^2+x$

13. $x+2+16x^4-65x^2=x-2$ **14.** $x-x^4+15x^2+15=x-1$ **15.** $x^3-x^4+5x^2-1=3x^4+x^2$ **16.** $2x^2+x=16x^4-6x^2+x+1$

17. $3+17x^2-2x-19=x^4-2x$ **18.** $5x^2-x-x^4-2x^2+x+4=0$ **19.** $37x^2-2x-1=3+9x^4-2x$ **20.** $3x-2x^2+x^4+4=3x^2+3x$

21. $2-3x^2+81x^4-15x^2-1=0$ **22.** $2+x^4-2x+62=20x^2-2x$ **23.** $3x^2-x^4-x^3=13x^2-x^3+9$ **24.** $23x^2+x-16x^4-9=x-2x^2$

25. $144-x^4-6x^2-x(x-1)=x$ **26.** $11x^2-x^4-3\left(2x^2-1\right)-7=0$ **27.** $2(3x+3)-6x-2=5x^2-x^4$ **28.** $x(2x-1)-16x^4+6x^2=1-x$

29. $4x^2-x^3-1=x^4-x\left(x^2-2x\right)$ **30.** $2(3x-2)+x^4-6x=10x^2-13$ **31.** $x^3(x-2)-2x^4+2x^3=1-2x^2$ **32.** $2x^3-x^2(2x+2)-1=x^4-4x^2$

9. Resuelve la ecuación:

1. $4-3x^3-x^2=3-3x$ **2.** $9x-4x^3-2=2x-5$ **3.** $x-3x^2+2=1+2x^3+x$ **4.** $9x-3-9x^3-2x+5=0$

5. $x^3-3x^2+5x=3x^3-6$ **6.** $14x-2x^4=6-3x^2+3x$ **7.** $20x-3-6x^3=x^2+3+x$ **8.** $2x^3+2x^2-5x-2=3x^2$

9. $4-6x^3=x-11x^2+5x+3$ **10.** $x^2+6x^3-x+4=14x^2-x$ **11.** $7-2x^3-x^2+20x=2x-2$ **12.** $3-3x^3-2x^2+4x=5-3x$

13. $x+10x^3-11x-1=2-3x^4$ **14.** $x+4x^3-3x^2-6x+3=x^2$ **15.** $3+2x^3+5x^2+6x-2=2x$ **16.** $10x-1-3x^3-2x^2=3x+1$

17. $10-16x^2-8x=1+x+4x^3$ **18.** $-2-8x=2x^3+9x^2+1+2x$ **19.** $16x^2-3-x=4x^3+18x-9$ **20.** $2x-x^2-6x^3=x+6-12x^2$

21. $3x-6x^3-7x^2-1=8-27x$ **22.** $6x-3x^3-3x^2+2=3x-x^2$ **23.** $x^3+8x=3x-8x^2+4x^3+6$ **24.** $2-3x^3+4x^2+3x=3x^2+3$

10. Resuelve la ecuación:

1. $\sqrt[3]{3x+5}=2$ **2.** $2-\sqrt{x+3}=0$ **3.** $x-\sqrt{x+2}=0$ **4.** $\sqrt{3x+12}=3$ **5.** $x-\sqrt{3x-2}=0$

6. $\sqrt{2x+3}-x=0$ **7.** $\sqrt{x+5}-3x=5$ **8.** $\sqrt{3x+4}-x=2$ **9.** $\sqrt{4x^2+24}=5$ **10.** $\sqrt[3]{2x+7}-2=0$

11. $\sqrt{9x^2-7}-3=0$ **12.** $1-\sqrt[3]{4x^2-3}=0$ **13.** $\sqrt{3x^3+7}-2=0$ **14.** $1-\sqrt[3]{3x^3+4}=0$ **15.** $x+5=\sqrt{3x+13}$

16. $4-\sqrt{4x+22}=0$ **17.** $\sqrt{4x+24}-x=6$ **18.** $\sqrt[3]{3x^2+5}-2=0$ **19.** $3-\sqrt[3]{x^3+35}=0$ **20.** $\sqrt[3]{3x+28}-3=0$

21. $x-1=\sqrt{3x^2-23}$ **22.** $4-\sqrt{2x^2+14}=0$ **23.** $\sqrt{3x^3+25}-1=0$ **24.** $\sqrt{x+3}-3x-7=0$ **25.** $\sqrt{4x^2-8}-4=2x$

26. $3-\sqrt{3x^3+33}=0$ **27.** $3x+7=\sqrt{3x+19}$ **28.** $3x-2=\sqrt{2x^2+8}$ **29.** $3x+6=\sqrt{2x^2+7}$ **30.** $\sqrt[3]{4x^2+23}-3=0$

31. $2x+3=2\sqrt{2x+3}$ **32.** $3x-\sqrt{x+10}+6=0$ **33.** $3x+1=\sqrt{4x^2+12}$ **34.** $\sqrt{x^2+8}-3x-6=0$ **35.** $\sqrt[3]{24x^3+11}-2=0$

36. $\sqrt{x+15}=4\sqrt{4x-3}$ **37.** $3\sqrt{3x+11}-3x=11$ **38.** $\sqrt{3x+10}-2x-6=0$ **39.** $x-\sqrt{4x^2+12}+5=0$ **40.** $\sqrt{4x^2-3}-3x-4=0$

Soluciones

1.1. 2 **1.2.** $\frac{1}{2}$ **1.3.** $\frac{-3}{4}$ **1.4.** 1 **1.5.** $\frac{1}{2}$ **1.6.** 3 **1.7.** 1 **1.8.** -1 **1.9.** -1 **1.10.** 3 **1.11.** $\frac{3}{4}$ **1.12.** $\frac{3}{4}$ **1.13.** 1 **1.14.** $\frac{-1}{2}$ **1.15.** $\frac{4}{3}$ **1.16.** $\frac{1}{2}$ **1.17.** c.i. **1.18.** c.i. **1.19.** inc. **1.20.** inc. **2.1.** $\frac{4}{3}$ **2.2.** -4 **2.3.** $\frac{2}{3}$ **2.4.** -4 **2.5.** 3 **2.6.** 0 **2.7.** 2 **2.8.** -1 **2.9.** 0 **2.10.** $\frac{-1}{2}$ **2.11.** $\frac{-1}{3}$ **2.12.** $\frac{-2}{3}$ **2.13.** $\frac{-3}{2}$ **2.14.** 0 **2.15.** 1 **2.16.** c.i. **2.17.** inc. **2.18.** inc. **3.1.** 1 **3.2.** -1 **3.3.** $\frac{-4}{3}$ **3.4.** 1 **3.5.** $\frac{-2}{3}$ **3.6.** 4 **3.7.** -1 **3.8.** $\frac{3}{4}$ **3.9.** $\frac{3}{2}$ **3.10.** -1 **3.11.** 4 **3.12.** -1 **3.13.** -1 **3.14.** -4 **3.15.** $\frac{3}{2}$ **3.16.** $\frac{-4}{3}$ **3.17.** 4 **3.18.** $\frac{4}{3}$ **3.19.** $\frac{-2}{3}$ **3.20.** $\frac{-2}{3}$ **4.1.** -4 **4.2.** -1 **4.3.** 0 **4.4.** 4 **4.5.** $\frac{1}{2}$ **4.6.** $\frac{1}{2}$ **4.7.** $\frac{-4}{3}$ **4.8.** 4 **5.1.** -3, 3 **5.2.** s.s.r. **5.3.** $\frac{1}{2}, \frac{4}{3}$ **5.4.** -1, $\frac{1}{2}$ **5.5.** $\frac{-4}{3}$, -1 **5.6.** $\frac{-3}{4}$, 1 **5.7.** $\frac{3}{2}$ **5.8.** -1, 1 **5.9.** -1, $\frac{1}{2}$ **5.10.** $\frac{1}{2}, \frac{3}{2}$ **5.11.** -2, $\frac{2}{3}$ **5.12.** $\frac{1}{2}$, 1 **5.13.** s.s.r. **5.14.** -4, 1 **5.15.** -1, 0 **5.16.** 3 **5.17.** -3, 0 **5.18.** -4, $\frac{-1}{3}$ **5.19.** $\frac{-3}{2}, \frac{-1}{3}$ **5.20.** $\frac{-3}{2}$, -1 **5.21.** -2, 3 **5.22.** -2, $\frac{-1}{4}$ **5.23.** -4, $\frac{4}{3}$ **5.24.** -1, $\frac{1}{2}$ **5.25.** 1, 2 **5.26.** -1, 2 **5.27.** $\frac{-1}{2}, \frac{4}{3}$ **5.28.** $\frac{1}{3}$, 1 **5.29.** 2 **5.30.** -2, 2 **5.31.** s.s.r. **5.32.** $\frac{-3}{4}, \frac{2}{3}$ **5.33.** $\frac{-2}{3}$, 0 **5.34.** $\frac{-2}{3}, \frac{2}{3}$ **5.35.** -2, $\frac{2}{3}$ **5.36.** $\frac{-3}{2}, \frac{3}{2}$ **5.37.** -2, $\frac{2}{3}$ **5.38.** $\frac{1}{2}$, 3 **5.39.** $\frac{3}{4}$ **5.40.** 3 **5.41.** $\frac{-1}{2}$, 0 **5.42.** $\frac{-3}{2}, \frac{-2}{3}$ **5.43.** $\frac{-4}{3}$, -1 **5.44.** $\frac{1}{4}$, 1 **5.45.** $\frac{-3}{4}, \frac{-1}{2}$ **5.46.** $\frac{-1}{2}, \frac{1}{3}$ **5.47.** -1, $\frac{-1}{3}$ **5.48.** $\frac{1}{3}$ **6.1.** $\frac{2}{3}$, 2 **6.2.** -2, 2 **6.3.** -1, 1 **6.4.** -1, $\frac{-3}{4}$ **6.5.** -1, 1 **6.6.** $\frac{-2}{3}$, 4 **6.7.** $\frac{-4}{3}$,1 **6.8.** -2, $\frac{4}{3}$ **6.9.** 0, 1 **6.10.** 1, $\frac{3}{2}$ **6.11.** $\frac{-4}{3}$,1 **6.12.** 1, 3 **6.13.** -4, 0 **6.14.** $\frac{-1}{2}$, 1 **6.15.** 1 **6.16.** $\frac{-1}{4}, \frac{1}{4}$ **6.17.** s.s.r. **6.18.** $\frac{3}{4}$, 1 **6.19.** -3, $\frac{4}{3}$ **6.20.** -1, $\frac{1}{4}$ **6.21.** $\frac{-4}{3}, \frac{1}{2}$ **6.22.** -1, $\frac{2}{3}$ **6.23.** -2, $\frac{4}{3}$ **6.24.** $\frac{1}{2}$, 1 **7.1.** $\frac{-1}{2}, \frac{2}{3}$ **7.2.** $\frac{-1}{2}, \frac{-1}{3}$ **7.3.** -4, $\frac{-1}{2}$ **7.4.** -1 **7.5.** $\frac{-3}{4}$, 2 **7.6.** -2, 3 **7.7.** $\frac{1}{2}$ **7.8.** $\frac{1}{3}, \frac{3}{2}$ **8.1.** -1, 1 **8.2.** -2, -1, 1, 2 **8.3.** -2, 2 **8.4.** -2, -1, 1, 2 **8.5.** -1, 1 **8.6.** -4, -3, 3, 4 **8.7.** -1, 1 **8.8.** -2, 2 **8.9.** -1, $\frac{-3}{4}, \frac{3}{4}$, 1 **8.10.** $\frac{-1}{2}, \frac{1}{2}$ **8.11.** -3, $\frac{-1}{3}, \frac{1}{3}$, 3 **8.12.** -2, 2 **8.13.** -2, $\frac{-1}{4}, \frac{1}{4}$, 2 **8.14.** -4, 4 **8.15.** -1, $\frac{-1}{2}, \frac{1}{2}$, 1 **8.16.** $\frac{-1}{2}, \frac{1}{2}$ **8.17.** -4, -1, 1, 4 **8.18.** -2, 2 **8.19.** -2, $\frac{-1}{3}, \frac{1}{3}$, 2 **8.20.** -2, -1, 1, 2 **8.21.** $\frac{-1}{3}, \frac{1}{3}$ **8.22.** -4, -2, 2, 4 **8.23.** s.s.r. **8.24.** -1, $\frac{-3}{4}, \frac{3}{4}$, 1 **8.25.** -3, 3 **8.26.** -2, -1, 1, 2 **8.27.** -2, -1, 1, 2 **8.28.** $\frac{-1}{2}, \frac{1}{2}$ **8.29.** -1, 1 **8.30.** -3, -1, 1, 3 **8.31.** -1, 1 **8.32.** -1, 1 **9.1.** -1, $\frac{-1}{3}$, 1 **9.2.** -1, $\frac{-1}{2}, \frac{3}{2}$ **9.3.** -1, $\frac{1}{2}$ **9.4.** $\frac{-2}{3}, \frac{-1}{3}$, 1 **9.5.** -2, -1, $\frac{3}{2}$ **9.6.** -2, $\frac{1}{2}$, 3 **9.7.** -2, $\frac{1}{3}, \frac{3}{2}$ **9.8.** -1, $\frac{-1}{2}$, 2 **9.9.** $\frac{1}{3}, \frac{1}{2}$, 1 **9.10.** $\frac{-1}{2}, \frac{2}{3}$, 2 **9.11.** -3, $\frac{-1}{2}$, 3 **9.12.** -2, $\frac{1}{3}$, 1 **9.13.** -3, -1, $\frac{-1}{3}$, 1 **9.14.** -1, $\frac{1}{2}, \frac{3}{2}$ **9.15.** -1, $\frac{-1}{2}$ **9.16.** -2, $\frac{1}{3}$, 1 **9.17.** -3, $\frac{-3}{2}, \frac{1}{2}$ **9.18.** -3, -1, $\frac{-1}{2}$ **9.19.** $\frac{1}{2}, \frac{3}{2}$, 2 **9.20.** $\frac{-2}{3}$, 1, $\frac{3}{2}$ **9.21.** -3, $\frac{1}{3}, \frac{3}{2}$ **9.22.** -1, $\frac{-2}{3}$, 1 **9.23.** -1, $\frac{2}{3}$, 3 **9.24.** -1, $\frac{1}{3}$, 1 **10.1.** 1 **10.2.** 1 **10.3.** 2 **10.4.** -1 **10.5.** 1, 2 **10.6.** 3 **10.7.** -1 **10.8.** -1, 0 **10.9.** $\frac{-1}{2}, \frac{1}{2}$ **10.10.** $\frac{1}{2}$ **10.11.** $\frac{-4}{3}, \frac{4}{3}$ **10.12.** -1, 1 **10.13.** -1 **10.14.** -1 **10.15.** -4, -3 **10.16.** $\frac{-3}{2}$ **10.17.** -6, -2 **10.18.** -1, 1 **10.19.** -2 **10.20.** $\frac{-1}{3}$ **10.21.** 3 **10.22.** -1, 1 **10.23.** -2 **10.24.** -2 **10.25.** $\frac{-3}{2}$ **10.26.** -2 **10.27.** -1 **10.28.** 2 **10.29.** -1 **10.30.** -1, 1 **10.31.** $\frac{-3}{2}, \frac{1}{2}$ **10.32.** -1 **10.33.** 1 **10.34.** -1 **10.35.** $\frac{-1}{2}$ **10.36.** 1 **10.37.** $\frac{-11}{3}, \frac{-2}{3}$ **10.38.** -2 **10.39.** -1, $\frac{13}{3}$ **10.40.** -1