

Solving Equations Part III

Solve the following equations if possible.

1. $2(x-5) = -42$

2. $-3(2y+1) = 51$

3. $5(3x-4) = 25$

4. $4(2c+3) = 18$

5. $-5(3x-2) = 26$

6. $8(2a-7) = -6$

7. $8x-3x+4 = 49$

8. $-2x+5-x+13 = -27$

9. $-7a+3-5a+21 = -48$

10. $x+0.4x = 4.48$

11. $x-0.3x = -6.02$

12. $b+0.2b = -60$

13. $-7x-22 = 3x+18$

14. $4c+9 = 7c-33$

15. $3y-2 = 5y-2$

16. $8x-4 = -2x+6x+18$

17. $-5x+1-2x = -3-17$

18. $2y-3-5y = 11-32$

19. $3(3y+7) = 4(2y-8)$

20. $5(2x-3) = 3(5x-2)$

21. $2(x-3)+4(2x+1) = 48$

22. $3(x-4)-(x-7) = 11$

23. $3x-5(x+3) = x-3$

24. $7(x-2)-(3x+4) = 2$

25. $4(x-4)-(5x-7) = -3$

26. $3x-(7x+3) = -6x+27$

27. $4(3x-5) = 15-(3x+7)$

Solve the following equations by first clearing fractions.

28. $\frac{5}{6}x - \frac{1}{3} = \frac{1}{2}$

29. $\frac{5}{12}x - \frac{1}{6} = \frac{3}{4}$

30. $\frac{2}{9}x - \frac{5}{6} = \frac{13}{18}$

31. $\frac{2}{3}x - \frac{3}{4} = 5$

32. $\frac{5}{6}x - 1 = \frac{2}{3}$

33. $\frac{5}{7}x - \frac{1}{2} = \frac{3}{14}$

34. $\frac{5}{12}x - \frac{3}{4} = \frac{2}{3}x + \frac{5}{6}$

35. $\frac{2}{15}x - \frac{1}{3} = \frac{4}{5}x + 2$

36. $\frac{3}{8}x - \frac{2}{3} = \frac{5}{12}x + \frac{1}{6}$

37. $\frac{3x}{5} - 2 = \frac{x}{2} + 3$

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

39. $\frac{x+3}{4} + \frac{2x-5}{6} = 1$

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Solve the following equations by first clearing fractions.

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

41. $\frac{5x-2}{3} - \frac{3x-7}{6} = 1$

42. $\frac{3x}{2} - \frac{5x+3}{6} = -\frac{7}{12}$

43. $\frac{3x-7}{5} - \frac{x+4}{2} = -\frac{19}{2}$

44. $\frac{6-3x}{4} = x+8$

45. $\frac{2x-3}{3} - 5 = \frac{3x-2}{4}$

46. $\frac{2a+3}{5} = a-6$

47. $\frac{5y-1}{3} = 2y-4$

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

Solve the following equations by first clearing decimals.

49. $0.2x+1.5=-2.3$

50. $x-0.4x=45$

51. $0.04x+0.5=0.07x-2.2$

52. $1.3x-1.24=2.1x-0.56$

53. $0.08x+0.12(1000-x)=104$

54. $0.03x+0.08(9000-x)=350$

55. $0.06x+0.075(1200-x)=78$

Solve the following equations if possible.

56. $2x+21=7x-3(x-11)$

57. $7x+2=3x+4(x-3)$

58. $3(2x-5)=2x+4x-15$

59. $2x+3(x-2)=5x-11$

60. $11x-3=11(x-3)$

61. $4x-8=2x+2(x-4)$

62. $8x-(12x-11)=-4x+11$

63. $3(3x-1)-x=2(4x-5)$

64. $6x-14=-2(3x-5)$

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Answers

1. $\{-16\}$
2. $\{-9\}$
3. $\{3\}$
4. $\left\{\frac{3}{4}\right\}$
5. $\left\{-\frac{16}{15}\right\}$
6. $\left\{\frac{25}{8}\right\}$
7. $\{9\}$
8. $\{15\}$
9. $\{6\}$
10. $\{3.2\}$
11. $\{-8.6\}$
12. $\{-50\}$
13. $\{-4\}$
14. $\{14\}$
15. $\{0\}$
16. $\left\{\frac{11}{2}\right\}$
17. $\{3\}$
18. $\{6\}$
19. $\{-53\}$
20. $\left\{-\frac{9}{5}\right\}$
21. $\{5\}$
22. $\{8\}$
23. $\{-4\}$
24. $\{5\}$
25. $\{-6\}$
26. $\{15\}$
27. $\left\{\frac{28}{15}\right\}$
28. $\{1\}$
29. $\left\{\frac{11}{5}\right\}$
30. $\{7\}$
31. $\left\{\frac{69}{8}\right\}$
32. $\{2\}$
33. $\{1\}$
34. $\left\{-\frac{19}{3}\right\}$
35. $\left\{-\frac{7}{2}\right\}$
36. $\{-20\}$
37. $\{50\}$
38. $\{17\}$
39. $\left\{\frac{13}{7}\right\}$
40. $\left\{\frac{2}{11}\right\}$
41. $\left\{\frac{3}{7}\right\}$
42. $\left\{-\frac{1}{8}\right\}$
43. $\{-61\}$
44. $\left\{-\frac{26}{7}\right\}$
45. $\{-66\}$
46. $\{11\}$
47. $\{11\}$
48. $\{0\}$
49. $\{-19\}$
50. $\{75\}$
51. $\{90\}$
52. $\left\{-\frac{17}{20} \text{ or } -0.85\right\}$
53. $\{400\}$
54. $\{7400\}$
55. $\{800\}$
56. $\{-6\}$
57. no solution
58. all real numbers
59. no solution
60. no solution
61. all real numbers
62. all real numbers
63. no solution
64. $\{2\}$