

Math Worksheet for 8th Grade

Equations with variables on both sides

2. Solve: $20 - 7x = 6x - 6$

3. Solve: $4(2x - 1) = 3x + 11$

4. Solve: $5x - 9 = -2x + 12$

5. Solve: $7 + 2x = 3x - 5$

6. Solve: $10x + 6 = 4x + 30$

7. Solve: $-3x + 14 = 5x - 10$

8. Solve: $6(x - 2) = 2x + 8$

9. Solve: $0 = 4x - (2x + 6)$

10. Solve: $9x - 7 = 3(2x + 1)$

11. Solve: $15 - 4x = 3x + 2$

12. Solve: $2(x + 5) = x + 17$

Equations like $20 - 7x = 6x - 6$ (variations and one word problem) (13-18)

13. Solve: $20 - 7x = 6x - 6$

14. Solve: $20 - 7x = 6x - 14$

15. Solve: $20 - 7x = 6x + 4$

16. Solve: $20 - 7x = -6x - 6$

17. Solve: $2(10 - 7x) = 12x - 12$

18. Word problem: Emily's score is $20 - 7x$ and Jake's score on the same quiz is $6x - 6$. For what value of x are their scores equal?

Equations with fractions (variables on both sides) (19-34)

19. Solve: $(\frac{1}{2})x + 3 = (\frac{1}{3})x + 5$

20. Solve: $(\frac{3}{4})x - 2 = (\frac{1}{2})x + 1$

21. Solve: $(\frac{5}{6})x + 4 = (\frac{2}{3})x + 7$

22. Solve: $x/5 + 6 = (\frac{2}{3})x + 1$

23. Solve: $(\frac{3}{4})(x + 4) = (\frac{1}{2})x + \frac{7}{2}$

24. Solve: $(2x - 3)/5 = (x + 2)/3$

25. Solve: $x/4 - 5 = (\frac{3}{8})x + 1$

26. Solve: $7 + (\frac{2}{3})x = (\frac{5}{6})x + 10$

27. Solve: $(4x + 2)/2 = x + 6$

28. Solve: $x/3 + 2 = (\frac{2}{3})x - 1$

29. Word problem: Sam's allowance is $(\frac{1}{2})x + 3$ dollars; his sister's is $(\frac{1}{3})x + 10$ dollars. For what x are they equal?

30. Word problem: A recipe calls for $(\frac{2}{5})x$ cups of sugar; another recipe calls for $(\frac{1}{2})x + 1$ cups. For what x are the sugar amounts equal?



Math Worksheet for 8th Grade Equations with variables on both sides

Name: _____

Due Date: _____

Teacher: _____

Parent Sign: _____

31. Solve: $(\frac{1}{4})(8x - 4) = (\frac{1}{2})x + 1$

32. Solve: $(6x - 3)/9 = (2x + 1)/3$

33. Solve: $(\frac{5}{2})x - 4 = (\frac{3}{4})x + 6$

34. Solve: $(x + 1)/6 + 2 = (2x - 3)/3$

Equations with the variable in the denominator (35-50)

35. Solve: $5/x = 2$ (assume $x \neq 0$)

36. Solve: $6/x + 3 = 9$

37. Solve: $2/x + 4 = 5/x + 1$

38. Solve: $3/x - 2 = 1/x + 4$

39. Solve: $10/x + 2 = 3$

40. Solve: $4/x + 5 = 2/x + 9$

41. Solve: $9/x - 3 = 3/x + 1$

42. Solve: $2/x + 3/x = 1$

43. Solve: $7/x + 1 = 2/x + 4$

44. Solve: $2/x + 1 = 5/x - 2$

45. Solve: $8/x = 2 + 4/x$

46. Solve: $3/x + 2 = 5/x + 4$

47. Solve: $12/x - 1 = 4$

48. Solve: $15/x = 3/x + 8$

49. Word problem (rates): Two pumps fill a tank. Pump A takes x hours; Pump B takes $2x$ hours. Together they fill the tank in 4 hours. Find x .

50. Word problem (rates): A machine fills 8 buckets in x minutes. A second machine fills 8 buckets in 12 minutes. Together they fill 8 buckets in 4 minutes. Find x .