

## Math Worksheet for 9th Grade

### Linear equations with parentheses

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

3.  $5 - 2(x + 3) = 1$

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

5.  $(\frac{1}{2})(4x + 6) = 8$

6.  $2(x + 3) = 3x - 1$

7.  $-3(x - 2) + 4 = 2x + 1$

8.  $6 - (x + 5) = 2x$

9.  $(x + 2) + 2(x - 3) = 10$

10.  $3(x - 4) = 2(x + 5)$

11.  $(\frac{2}{5})(10x - 5) = 6$

12.  $-\frac{1}{3}(9x + 12) = -15$

13.  $5(x + 1) + 2(x - 2) = 3(x + 4)$

14.  $2[3(x - 1) + 4] = 5$

15. Word problem: A number is increased by 3, then doubled, giving 26. Form the equation and find the number.

16. Word problem: Twice the sum of a number and 4 equals three times the number decreased by 1. Find the number.

17. Word problem: Three times the quantity  $(x - 2)$  equals  $2x + 7$ . Solve for  $x$ .18. Word problem: Emma has 3 times as many stickers as Liam. If Emma gives 4 to Liam, Emma then has twice as many stickers as Liam. How many stickers did Liam originally have? (Let Liam =  $x$ )

19.  $2x + 3(x + 2) = 31$

20.  $(x - 1) - 2(x + 3) = -9$

21.  $4 - 2(3x - 5) = x + 10$

22.  $-2[4 - (x + 1)] = 3$

23.  $(5x + 10)/5 = 2(x + 1)$

24.  $7 - [2(x - 3) + x] = 0$

25.  $8(x - 2) = 4(2x - 6)$

26.  $3(x + 1) = 3x + 3$

27.  $-(2x + 5) = 3 - (x - 2)$

28.  $0.5(4x - 6) + 3 = x + 2$

29.  $3x + 2(x - 1) = 20$

30.  $(3x - 2) - 4(x + 1) = -5$

31.  $(x/2) + 3(x + 2)/2 = 10$

32. Reasoning: For which value of  $k$  does  $k(x + 1) = 3x + k$  have infinitely many solutions? If  $k \neq$  that value, what is the solution for  $x$ ?

Name:

Due Date:

Teacher:

Parent Sign:

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33.  $2[(x + 2) - (x - 3)] = 10$

34.  $2x - (3x + 5) = 7$

35.  $(4 - x) + 2(x - 1) = 6$

36. Word problem: A number multiplied by 4 and decreased by 6 equals three more than twice the number. Find the number.

37.  $(2x + 3) - 3(x - 1) = x + 8$

38. If  $3(x + a) = 12$  and  $a = \frac{1}{2}$ , find  $x$ .

39.  $(x + 5)/3 - (x - 1)/2 = 1$

40.  $5 - 2[(x - 3) + (2x + 1)] = -17$

41.  $1 - (2x + 3) = 4(x - 2)$

42.  $6 = (\frac{1}{3})(9 - 3x) + 2$

43. For what  $x$  does  $2(x + 3) = 6(x - 1)$ ?

44. If  $4(x + 2) = a$  and  $3(x - 1) = a$ , find  $x$ .

45. Word problem: Taxi A charges 3plus2 per mile. Taxi B charges 1plus2.25 per mile. After how many miles will the fares be equal?

46.  $(7x - 14)/7 + (x - 2)/2 = 5$

47.  $-[2(x + 3) - 4] = x - 1$

48.  $(x/3) - 2[(x - 3)/3] = 4$

49.  $x - 2(x + 4) = -10$

50. Reasoning/parameter: Solve  $(m - 1)(x + 2) = m(x + 2)$  for  $x$ . For which  $m$  are there infinitely many solutions or no solution?