

FACTORING, EXPANDING, AND SIMPLIFYING

Factor out the greatest common factor.

1. $3x + 9$
2. $2y + 4x + 6z$
3. $4xy + 16z$
4. $-2x + 14$
5. $8 - 32x$
6. $10x + 20y - 5z$
7. $-18 + 21x$
8. $40x - 8$
9. $27 + 81y$
10. $49x - 28$

Solve for x.

11. $x + 6 = 9$
12. $8 - x = 4$
13. $6 = 11 + x$
14. $12 = x - 8$
15. $25 = x + 13$
16. $5 - x = 17$
18. $x - 5 = 25$
19. $-x + 4 = -6$
20. $52 = 41 - x$
21. $2x = 10$
22. $3x = 60$
23. $25 = 5x$
25. $2x = 1$
26. $48 = -8x$
27. $-9x = 81$
28. $25x = 250$
29. $121 + 3x = 4$

30. $2x + 10 = 50$
 31. $4x - 3 = 81$
 32. $6x - 7 = 11$
 33. $x + 7 = 14$
 34. $8x + 48 = 3x - 12$
 35. $3x - 15 = 15 - 3x$
 36. $2(3x + 1) = 4x$
 37. $3x = 5(x + 4)$
 38. $3(x + 6) = 9x$
 39. $7(3x + 6) = 11 - (x + 2)$
 40. $21(x - 30) = 84$
 41. $5(2x - 1) = 3 - (x + 10)$
 42. $14 = 2x + (3x - 7)$
 43. $19x - (3 - 2x) = 49x + (-x)$
 44. $(-3 + 7x) + 4 - 2x = 0$
 45. $(7x + 4) - 3 = 0$
 46. $180(x - 3) = 9$
 47. $9(2x + 8) = 10 + 2x$
- Simplify.**
48. $4 + 2(x + 7) + 9x - 4(2 - y)$
 49. $6(y - 2) + 4x - x - 3(-6x + 10) + y$
 50. $7(2x + 3) + 8 + 3(4y - 6) + 9$
 51. $3(x + 7) - 4(3 - y)$
 52. $6 + 4(x - 9) + 2x - 8(3 - y)$
 53. $7(3x + y) + 5y - 3(4x - 2y)$
 54. $10(y - 2) + 3(x - 3)$
 55. $-4(2x + 3) - 9x + 5y - 2(3x + 2y)$