

Chapter 9 Section 5: Solving Equations by Factoring

Problems

Solve each of the following equations.

1. $(x-8)(x-1)(x+13)=0$; $x=?$

2. $(x-19)(x-12)(x+14)=0$; $x=?$

3. $(x+16)(x-21)(x+33)=0$; $x=?$

4. $(x+36)(x-16)(x+52)=0$; $x=?$

5. $(3y+4)(6y-5)(5y-3)=0$; $y=?$

6. $(6y+1)(4y+7)(2y-9)=0$; $y=?$

7. $(23p+2)(22p-3)=0$; $p=?$

8. $(14q-3)(15q-2)=0$; $q=?$

9. $x^2-15x+26=0$; $x=?$

10. $x^2-12x+27=0$; $x=?$

11. $x^2+9x-36=0$; $x=?$

12. $x^2+12x-28=0$; $x=?$

13. $y^2+20y+99=0$; $y=?$

14. $y^2+23y+42=0$; $y=?$

15. $u^2+17u-84=0$; $u=?$

16. $v^2-30v-31=0$; $v=?$

17. $2x^2+x-15=0$; $x=?$

18. $3x^2+10x-8=0$; $x=?$

19. $10t^2+23t-5=0$; $t=?$

20. $8u^2+14u-15=0$; $u=?$

21. $x(x+5)=36$; $x=?$

22. $x(x-11)=42$; $x=?$

23. $z(z - 19) = -60; \quad z = ?$

24. $n(n - 18) = -65; \quad n = ?$

25. $x(x - 2) = 35; \quad x = ?$

26. $x(x + 15) = -50; \quad x = ?$

27. $x(3x + 22) = 16; \quad x = ?$

28. $x(5x + 23) = 10; \quad x = ?$

29. $2x(3x + 5) = 5x^2 - 7x - 52; \quad x = ?$

30. $x(3x - 4) = 2x^2 - 7x + 88; \quad x = ?$

31. $3x(2x - 1) = 5(x^2 + 24) - x; \quad x = ?$

32. $4x(x - 1) = 3x(x - 1) + 110; \quad x = ?$

33. $3u(4u - 1) = 2(u + 2) - 1; \quad u = ?$

34. $10(w^2 + 1) = 29w; \quad w = ?$

35. $(2x - 1)(5x - 1) = (2x + 1)(x + 1) + 7;$
 $x = ?$

36. $(3x - 1)(7x - 1) = (3x - 1)(x - 2) + 9;$
 $x = ?$

37. $10y^2(y^2 + 1) - 3(y^3 - 1) = 26y^3 + 3;$
 $y = ?$

38. $y^2(3y^2 + 49) - y^4 = 21y^3; \quad y = ?$
