Exponential and Logarithmic Equations

Solve the following Exponential equations.

1. $3^x = 5$

2. . $3^x = 7$

3. $2^x = 7$

4. . $7^x = 2$

5. $4^{x-1} = 5$

6. $5^{x-1} = 4$

7. $5^{x+2} = 3$

8. $5^{x+2} = 3$

9. $3^{2x} = 5^{x+1}$

10. $7^{3x} = 4^{x-2}$

11. $6^{-x} = 5$

12. $3^{-x} = 5$

13. $6^{-x} = 5^{x-1}$

14. $2^{-x} = 3^{x+1}$

15. $e^x = 3$

16. $e^x = 5$

17. $e^{-x} = 3$

18. $e^{-x} = 2$

19. $3e^{x+2} = 12$

20. $2e^{x+2} = 10$

21. $4e^{-x} + 2 = 18$

22. $2e^{-x} + 4 = 18$

23. $2 + 3e^{-x} = 23$

24. $5 + 3e^{-x} = 32$

25. $1 - 5e^{2x} = -24$

26. $4 - 5e^{2x} = -26$

27. $e^{-0.02x} = 5$

28. $e^{-0.01x} = 15$

29. $2e^{\frac{x}{2}} + 3 = 7$

30. $-2e^{\frac{x}{2}} + 3 = -7$

Solve the following logarithmic equations.

31. $ln(x) = 1$

32. $log(x) = 1$

33. $log(x - 9) + log(x) = 1$

34. $log(x + 9) + log(x) = 1$

35. $log(x) - log(x + 3) = 1$

36. $log(x) - log(x + 7) = -1$

37. $log_2(x-3)+log_2(x+3)=4$

38. $log_3(x-4)+log_3(x+4)=2$

39. $ln(x+5)+ln(x+1)=ln(12)$

40. $ln(x-6)+ln(x+3)=ln(22)$

41. $log_6(x+7)-log_6(x-2)=log_6(5)$

42. $log_3(x-4)-log_3(x+1)=log_3(2)$

43. $log_4(x+6)-log_4(x)=2$

44. $log_4(x)-log_4(x-15)=2$