

Worksheet 7.5 Solving Exponential and Log Equations KR 10-11

Solve for x. Round to 3 decimal places if necessary.

1. $\log_5 x = 2$

2. $\log_x 7 = 2$

3. $\log_3 5 = x$

4. $5^x = 12$

5. $16 - 4^x = 10$

6. $10^x = 200$

7. $\log_x 5 = 3$

8. $\frac{4^x}{2} = 20$

9. $7^x = 300$

10. $5^x + 6 = 100$

11. $\log_6 50 = x$

12. $5^{x+2} = 500$

13. $2^x = 1,000,000$

14. $\log_3 15 = x$

15. $5(1.5)^x = 3000$

16. $8^{x-4} = 75$

17. $\log_5 x = 3 \log_5 2$

18. $\log_4 x = \log_4 15 - \log_4 3$

19. $48 - 2^x = 40$

20. $6(1.2)^x = 18$

21. $\frac{12^x}{4} = 25$

Solve for x—NO CALCULATOR NEEDED!

22. $27^{2x-1}=3$

23. $8^{x+2}=2$

24. $4^{1-x}=8$

25. $3^x=27$

26. $10^{x-1}=100^{4-x}$

27. $49^{x-2}=\sqrt{7}$

28. $3^{-x-5}=9^{4x}$

29. $6^{x+1}=36^{x-1}$

30. $4^x=8^5$

31. $\log_a x=2\log_a 3+\log_a 5$

33. $\log_b(x+3)=\log_b 8-\log_b 2$

35. $\log_a x-\log_a(x-5)=\log_a 6$

36. $\log_a(3x+5)-\log_a(x-5)=\log_a 8$

37. $\log_x 100-\log_x 4=2$

38. $\log_x 8+\log_x 3=2$

39. $\log x-\log(x+3)=-1$

40. $\log(x+9)-\log x=1$

41. $\log_4(x+3)+\log_4(x-3)=2$

42. $\log_5(x+4)+\log_5(x-4)=2$