


Pg. 456-457 #12-31 and 46-53

e Write each equation in logarithmic form.

 **See Problem 1.**

12. $49 = 7^2$

13. $10^3 = 1000$

14. $625 = 5^4$

15. $\frac{1}{10} = 10^{-1}$


16. $8^2 = 64$

17. $4 = \left(\frac{1}{2}\right)^{-2}$

18. $\left(\frac{1}{3}\right)^3 = \frac{1}{27}$

19. $10^{-2} = 0.01$

Evaluate each logarithm.

 **See Problem 2.**

20. $\log_2 16$

21. $\log_4 2$

22. $\log_8 8$

23. $\log_4 8$

24. $\log_2 8$

25. $\log_{49} 7$

26. $\log_5 (-25)$

27. $\log_3 9$

28. $\log_2 2^5$

29. $\log_{\frac{1}{2}} \frac{1}{2}$

30. $\log 10,000$

31. $\log_5 125$

Write each equation in exponential form.

46. $\log_2 128 = 7$

47. $\log 0.0001 = -4$

48. $\log_6 6 = 1$

49. $\log_4 1 = 0$

50. $\log_7 16,807 = 5$

51. $\log_2 \frac{1}{2} = -1$

52. $\log_3 \frac{1}{9} = -2$

53. $\log 10 = 1$