

Change of Base (Assignment 40)

Rewrite each logarithm with a base of 10.

1. $\log_3 7$

2. $\log_5 1$

3. $\log_w t$

4. $\ln 4$

5. $\log_x 2.3$

6. $\log_{\text{hello}}(\text{goodbye})$

Rewrite each logarithm with base e .

7. $\log_4 0.01$

8. $\log_\lambda v$

9. $\log 5$

10. $\log_2 x^2$

11. $\log_{2a} 9$

12. $\log_3 e$

Rewrite each logarithm with base θ .

13. $\log_2 9$

14. $\log 15$

15. $\ln a$

Calculate the following. If your answer is a decimal, round it to the nearest thousandth.

16. $\frac{\log 6}{\log 8}$

17. $\frac{\log 2.3}{\log 1.5}$

18. $\frac{\log \pi^2}{\log 7}$

19. $\frac{\log 1}{\log 19}$

20. $\frac{\log 106}{\log 2}$

21. $\frac{\ln 0.9}{\ln 25}$

22. $\frac{\ln 18}{\ln 3}$

23. $\frac{\ln 2.3}{\ln 1.5}$

24. $\frac{\ln \pi^2}{\ln 7}$

Calculate the following. If your answer is a decimal, round it to the nearest thousandth.

25. $\log_3 6$

26. $\log 50$

27. $\log_\pi 1.7$

28. $\log_2 8$

29. $\log_{0.1} 0.2$

30. $\ln 0.5$

31. $\log_{10} 7$

32. $\log_{25} 5$

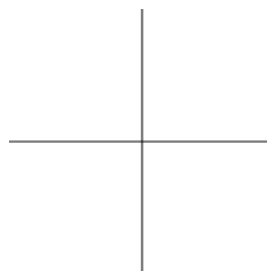
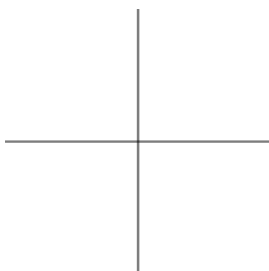
33. $\log_{\frac{1}{2}} 5$

Review.

Find the domain and range of each function and graph. Include a labeled asymptote in your graph.

34. $y = \log_4(2x + 5)$

35. $y = \log_{10} x^2$



36. $y = \log_{\frac{1}{2}} -x$

37. $y = -2^x + 3$

