

Algebra 2: Intro to Logarithms Homework WKST

Rewrite the logarithm as an exponential.

1. $\log_3 81 = 4$

2. $\log_2 \frac{1}{8} = -3$

3. $\log_4 1 = 0$

Rewrite the exponential as a logarithm.

4. $4^3 = 64$

5. $81^{1/2} = 9$

6. $7^{-2} = \frac{1}{49}$

Evaluate, if possible.

7. $\log_4 16$

8. $\log_3 \frac{1}{27}$

9. $\log_{16} 2$

10. $\log_7 7$

11. $\log 1000$

12. $\log_6 216$

13. $\ln e$

14. $\log_9 1$

15. $\log \frac{1}{10}$

16. $\log_{1/2} 8$

17. $\ln e$

18. $\log_4 32$

19. $\log_{32} 2$

20. $\log(0.01)$

21. $\log_5(-5)$

22. $\ln 1$

23. $\log_{25} 125$

24. $\log_{81} 27$

Without a calculator, determine what two consecutive integers does the log lie between?

25. $\log_3 100$

26. $\log_5 10$

27. $\log_2 \frac{1}{10}$

ANSWERS

1. $3^4 = 81$

2. $2^{-3} = \frac{1}{8}$

3. $4^0 = 1$

4. $\log_4 64 = 3$

5. $\log_{81} 9 = \frac{1}{2}$

6. $\log_7 \frac{1}{49} = -2$

7. 2

8. -3

9. $\frac{1}{4}$

10. 1

11. 3

12. 3

13. 1

14. 0

15. -1

16. -3

17. 1

18. $\frac{5}{2}$

19. $\frac{1}{5}$

20. -2

21. undefined

22. 0

23. $\frac{3}{2}$

24. $\frac{3}{4}$

25. 4 and 5

26. 1 and 2

27. -4 and -3