6-3 Additional Practice

Logarithms

Complete the table.

Exercise	Exponential Form	Logarithmic Form
1.	$4^3 = 64$	
2.		$\log x = 35$
3.	$6^{-3} = \frac{1}{216}$	
4.		$\ln(3x) = 8$
5.	$1000^0 = 1$	
6.		$\log_5 \sqrt{5} = \frac{1}{2}$

Solve the equation for *x*. Show your work.

7. $2 + \log_5 x = 3$

8. $4^{(x+2)} - 16 = 60$

9. $2 \ln (x-5) = 25$

Evaluate each logarithmic expression.

10. $\log_5 \frac{1}{625}$

11. $\log_8 8^5$

12. $\log_3(-10)$

13. $\ln (-e)$

14. $\ln e^3$

15. $\log 150$

16. Deshawn invests $5,000 in a savings account that earns 6% annual interest, compounded continuously. How long will it take to double his money?

17. Compare the following values and determine which one is greater. Explain.

$\log_{0.5} 6$ and $\log_{0.5} 4$