

Key Concepts Chapter 5

1. Graph an exponential function.

Ex: Sketch the graph of $f(x) = -e^{-x}$. (Label the y-intercept and the asymptote.)

2. Graph a logarithmic function.

Ex: $g(x) = \ln(x-2) + 3$ (Label the x-intercept and the asymptote.)

3. Simplify an expression using properties of logarithms.

Ex: Simplify completely: $2\log_5(5x) + \log_5(5x) - 3\log_5 x$

4. Solve a logarithmic equation.

Ex: Solve $\log_{15} x + \log_{15}(x-2) = 1$.

5. Solve an exponential equation.

Ex: Solve $2^{x+3} = 5^x$ (Give an exact answer.)

6. Solve a problem involving compound interest.

Ex: \$2000 is invested in an account that pays 3% (annual percentage rate) compounded continuously. How long will it take for the balance to reach \$3000?