

Name _____

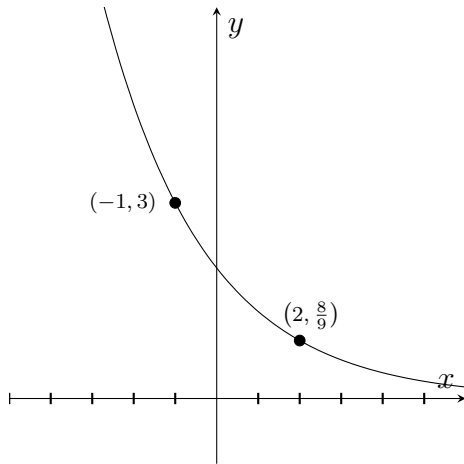
Homework 5

Exponential Functions

Properties of Logarithms

Exp/Log Equations and Applications

1. (6) Determine the equation of the exponential function whose graph is shown below.



2. (4) Suppose \$3400 is invested in an account that pays 5% interest, compounded semi-annually. How much is in the account at the end of 6 years?
3. (7) Suppose \$1100 is deposited in an account which pays 2.5% interest, compounded continuously. What is the balance at the end of 8 years?

4. (4) \$3600 is invested in an account which compounds interest semiannually. What interest rate (to the nearest 0.01%) is needed so that the balance in the account at the end of 3 years is \$4000?

5. (5) Expand the logarithm $\log_2 \left(\frac{5A^3}{MN} \right)$ completely.

6. (5) Write the expression $\log_5 x - 2\log_5 y + \log_5 z$ in the form $\log_b P$.

7. (4) What is the domain of the function $f(x) = \frac{1}{3} \log_3 (2\sqrt{2x - 10})$?

8. (5) Solve the equation $\log_2(5 - x) + \log_2(4 + x) = 3$.