

Unit 5: Exponential Functions and Equations

PRACTICE

Name: _____ Date: _____

Solve each problem. Give exact answers; use $\log$ or $\ln$ where the value is not a whole number, and round decimals to 3 places only where indicated.

1. Solve for x : $2^x = 32$

Answer: _____

2. Solve for x : $10^x = 1000$

Answer: _____

3. Evaluate: $\log$ base 2 of 64

Answer: _____

4. Evaluate: $\log$ base 5 of $(1/25)$

Answer: _____

5. Solve for x , exact form: $3^x = 20$. Write your answer as $\log(20)/\log(3)$.

Answer: _____

6. Solve for x : $5^{(x+1)} = 125$

Answer: _____

7. Evaluate $\ln(e^7)$.

Answer: _____

8. Solve for x , exact form: $e^x = 10$. Write your answer using $\ln$.

Answer: _____

9. Solve for x : $4^{(2x)} = 64$

Answer: _____

10. A population grows continuously as $P = 500 \times e^{(0.04t)}$. Find P when $t = 0$.

Answer: _____

11. Solve for x , exact form: $7^x = 1$.

Answer: _____