Name: _____ Class: _____ Date: _____ ID: A

Chapter 7 Quiz

State the domain and range.

1. $y = 3^x + 2$

2. $y = 3\left(\frac{1}{3}\right)^x + 2$

3. $y = 2 + \log_3 x$

4. $y = \log_3 (x - 2)$

Simplify.

5. $4e^{-3} \cdot e^5$

6. $\left(-2e^{2x}\right)^2$

7. $(4e^{-2})^{-3x}$

8. $\frac{5e^x}{6e}$

9. $\frac{12e^x}{e^{4x}}$

10. $\sqrt[3]{27e^{6x}}$

11. ***Account Balance*** You deposit $5000 in an account that pays 7% annual interest compounded continuously. What is the balance after 2 years?

Evaluate the expression without using a calculator.

12. $\log_2 16$

13. $\log_5 0.04$

14. $\log_9 3$

Use a property of logarithms to evaluate the expression.

15. $\log_4(16 \cdot 4)$

Expand the expression.

16. $\log_5 x^{\frac{1}{3}} y^6$

Condense the expression.

17. $3\log_3 15 + 2\log_3 x - \log_3 25$

Use the change-of-base formula to evaluate the expression.

18. $\log_5 23$

Solve.

19. $4e^x - 2 = 14$

20. $5\log_2 x = 24$

21. $\ln(3x+1) = \ln(2x-8)$