LESSON 99 Review Quiz

Take the quiz and record your score on your grading sheet. You may use a calculator unless otherwise specified. After the quiz, make sure you review what you missed.

1. $\dfrac{(2x^{-2})(8x^5)}{16x^4}$

Simplify the expression above using only positive exponents.

2. $\left(\dfrac{x^3}{3x^{-6}}\right)^2$

If the expression above is written in the form ax^k, what is the value of ak ?

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

Simplify the expression above. Write your answer in the form ae^k.

4. $3^{2x} = 81$

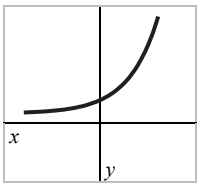
What value of x satisfies the equation above?

5. $4^{3-x} = 8^{x+2}$

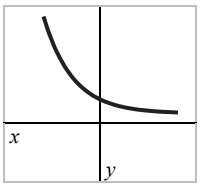
Given the equation above, what is the value of 2^x ?

6. Which could be the graph of $f(x) = e^x$?

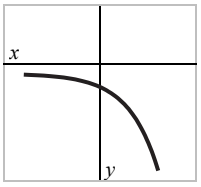
A)



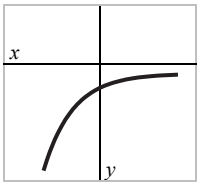
B)



C)



D)



7. What is the equation of the asymptote of the graph of $f(x) = 2^x + 1$?

8. Write an exponential function in the form $f(x) = ab^x$ whose graph passes through $(0, 2)$ and $(1, 6)$.

9. A culture of 20 bacteria doubles every three hours. Write an exponential function in the form $y = ab^x$ that models the number of bacteria, y, after t hours.

10. The value of a car is \$20,000. It loses 25% of its value every year. What will the value of the car be after 6 years? Round your answer to the nearest dollar.