Name _____   Date _____
Mr. Schlansky   Algebra II

Exponential Equations Multiple Choice

1. Which is the solution to: $2(3)^{4x} + 1 = 11$?

1) $\dfrac{\log 5}{4\log 3}$

3) $\dfrac{\log 3}{4\log 5}$

2) $\dfrac{4\log 5}{\log 3}$

4) $\dfrac{4\log 3}{\log 5}$

2. Which is the solution to: $256 + 4(2)^{6x} = 2700$?

1) $\dfrac{\ln 4}{6\ln 2}$

3) $\dfrac{\ln 611}{6\ln 2}$

2) $\dfrac{6\ln 423}{\ln 4}$

4) $\dfrac{6\ln 2444}{\ln 4}$

3. Which is the solution to: $1 - 2(5)^{2x} = -5$?

1) $\dfrac{\ln 6}{2\ln 3}$

3) $\dfrac{2\ln 4}{\ln 3}$

2) $\dfrac{2\ln 5}{\ln 1}$

4) $\dfrac{\ln 3}{2\ln 5}$

4. Which is the solution to: $5(3)^{2x} = 30$?

1) $\dfrac{\log 6}{3\log 2}$

3) $\dfrac{2\log 6}{\log 3}$

2) $\dfrac{\log 6}{2\log 3}$

4) $\dfrac{2\log 3}{\log 6}$

21

5. The solution to the equation $5e^{x+2} = 7$ is

1) $-2 + \ln\left(\dfrac{7}{5}\right)$

2) $\left(\dfrac{\ln 7}{\ln 5}\right) - 2$

3) $\dfrac{-3}{5}$

4) $-2 + \ln(2)$

6. What is the solution of $2(3^{x+4}) = 56$?

1) $x = \log_3(28) - 4$

2) $x = -1$

3) $x = \log(25) - 4$

4) $x = \dfrac{\log(56)}{\log(6)} - 4$

7. The solution to the equation $6\left(2^{x+4}\right) = 36$ is

1) -1

2) $\dfrac{\ln 36}{\ln 12} - 4$

3) $\ln(3) - 4$

4) $\dfrac{\ln 6}{\ln 2} - 4$

8. Which expression is *not* a solution to the equation $2^t = \sqrt{10}$?

1) $\dfrac{1}{2}\log_2 10$

2) $\log_2 \sqrt{10}$

3) $\log_4 10$

4) $\log_{10} 4$