

Exponential and Logarithmic Equations

Multiple-Choice Worksheet

Name: _____ Date: _____

Directions: Choose the best answer for each question. Show your work on a separate sheet if needed.

1. Solve: $7^{(4x - 1)} = 3^{(5x)}$.

A. $x = \ln(7)/(4\ln(7) - 5\ln(3))$

B. $x = \ln(7)/(5\ln(3) - 4\ln(7))$

C. $x = 1$

D. $x = 0$

2. Solve: $2^{(-3y + 1)} = 16$.

A. $y = -1$

B. $y = 1$

C. $y = -5/3$

D. $y = 5/3$

3. Solve: $100^{(3x - 5)} = 1000^{(3x - 1)}$.

A. $x = 7/3$

B. $x = -7/3$

C. $x = 2$

D. $x = -2$

4. Solve: $11^{(1 - 8x)} = 9^{(2x + 3)}$.

A. $x = (\ln 11 + 3\ln 9)/(8\ln 11 - 2\ln 9)$

B. $x = (\ln 11 - 3\ln 9)/(8\ln 11 + 2\ln 9)$

C. $x = 1/2$

D. $x = -3/2$

5. Solve: $5^{(2z + 2)} = 625$.

A. $z = 2$

B. $z = -1$

C. $z = 1$

D. $z = 0$

6. Solve: $\log_4(x) = 3 - \log_4(x - 63)$.

A. $x = 64$

B. $x = -1$

C. $x = 8$

D. $x = 63$