

### 8-3 Homework

Pre-Calculus

Name \_\_\_\_\_

#### A. Solving Exponential Equations

1.  $4^{2x-7} = 64$

2.  $2^{3x+1} = 32$

3.  $9^{x+4} = 81^x$

4.  $\left(\frac{1}{16}\right)^x = \left(\frac{1}{2}\right)^{5x-6}$

5.  $3^{x+1} = 9^{5x}$

6.  $4^{5x} = 16^{2x-1}$

7.  $4^{x-3} = 8$

8.  $2^{6-x} = 4^{2+x}$

9.  $9^{2x} = 27^{3x-4}$

10.  $5^{x+3} = \frac{1}{25}$

11.  $8^{-x+14} = 16^x$

12.  $\left(\frac{1}{4}\right)^x = \frac{1}{64}$

## B. Exponential Equations Requiring Logarithms

1.  $5^x = 35$

2.  $4^x = 24$

3.  $3^{x+2} = 100$

4.  $e^x = 115$

5.  $10^{2x+5} = 1500$

6.  $8^{x^2} = 160$

7.  $2 \cdot 8^x = 368$

8.  $8 \cdot 10^x + 3 = 4068$

9.  $100 = 50e^{.25x}$

10.  $3^{x+5} = 18^x$

11.  $5^x = 8^{2x-3}$

12.  $12^{3x} = 6^{2x-2}$

13.  $7^{2x} = 3^{5x-2}$

14.  $2^{4x+1} = 7^{2x+3}$