Integrated Math 3 Name: _____
Unit 8: Exponential & Logarithmic Functions
8.3 Worksheet Date:_____ Period:_____

Solving Review

1. Rewrite and solve each problem.

a. $\log_3 81 = x$ b. $\log_M 36 = 2$ c. $\log_5 Y = 4$

2. Show two different ways to solve the problem: $64 \cdot 16^{-3x} = 16^{3x-2}$

3. Solve each equation. Show ALL WORK!

a. $\log_7 19 = x$ b. $\log_5 120 = y$

c. $\log_x 32 = 5$ d. $\log_{12} 8 = Z$

e. $\log_4 \frac{1}{64} = x$ f. $\log_9 1 = x$

4. Solve each equation. Show ALL WORK!

a. $81 \cdot 9^{-2b-2} = 27$

b. $9^{-3x} \cdot 9^{x} = 27$

c. $\frac{1}{6}^{3x+2} \cdot 216^{3x} = \frac{1}{216}$

d. $243^{k+2} \cdot 9^{2k-1} = 9$

e. $16^{2p-3} \cdot \frac{1}{4^{2p}} = 2^{4}$

f. $1000^{7k-2} \cdot \frac{1}{100} = 1$

5. Solve each equation. Show ALL WORK!

a. $3^{B} = 17$

b. $20^{r} = 56$

c. $12^{r} = 13$

d. $9^{n} = 49$

e. $13^{r} = \frac{1}{150}$

f. $5 \cdot 18^{6x} = 26$

g. $9^{n+10} + 3 = 81$

h. $11^{n-8} - 5 = 54$

i. $16^{n-7} + 5 = 24$

j. $5 \cdot 6^{3m} = 20$

k. $3.4x^3 - 9 = -4$

l. $-6x^4 - 3 = -123$