Name_____

Solving Exponential Equations with Logarithms

Date_____ Period____

Solve each equation. Round your answers to the nearest ten-thousandth.

1) $3^b = 17$

2) $12^r = 13$

3) $9^n = 49$

4) $16^v = 67$

5) $3^a = 69$

6) $6^r = 51$

7) $6^n = 99$

8) $20^r = 56$

9) $5 \cdot 18^{6x} = 26$

10) $e^{x-1} - 5 = 5$

11) $9^{n+10} + 3 = 81$

12) $11^{n-8} - 5 = 54$

13) $16^{n-7} + 5 = 24$

14) $20^{-6n} + 6 = 55$

15) $5 \cdot 6^{3m} = 20$

16) $8^{-5a} - 5 = 53$

17) $-2 \cdot e^{-3n-8} - 3 = -45$

18) $10 \cdot e^{2n-10} - 5 = 73$

19) $10 \cdot e^{10-3m} - 8 = 23$

20) $-8 \cdot e^{5-6x} + 10 = -16$

21) $-5.1 \cdot e^{10n+2} + 7.9 = 2$

22) $5.1 \cdot e^{10b+8} - 7 = 76.4$

23) $3 \cdot e^{4-3x} + 1.6 = 45.6$

24) $-2 \cdot e^{9.4x-5} + 6 = -68.9$

Name_____

Solving Exponential Equations with Logarithms

Date_____ Period____

Solve each equation. Round your answers to the nearest ten-thousandth.

1) $3^b = 17$

2.5789

2) $12^r = 13$

1.0322

3) $9^n = 49$

1.7712

4) $16^v = 67$

1.5165

5) $3^a = 69$

3.854

6) $6^r = 51$

2.1944

7) $6^n = 99$

2.5646

8) $20^r = 56$

1.3437

9) $5 \cdot 18^{6x} = 26$

0.0951

10) $e^{x-1} - 5 = 5$

3.3026

11) $9^{n+10} + 3 = 81$

−8.0172

12) $11^{n-8} - 5 = 54$

9.7005

13) $16^{n-7} + 5 = 24$

8.062

14) $20^{-6n} + 6 = 55$

−0.2165

15) $5 \cdot 6^{3m} = 20$

0.2579

16) $8^{-5a} - 5 = 53$

−0.3905

17) $-2 \cdot e^{-3n-8} - 3 = -45$

−3.6815

18) $10 \cdot e^{2n-10} - 5 = 73$

6.0271

19) $10 \cdot e^{10-3m} - 8 = 23$

2.9562

20) $-8 \cdot e^{5-6x} + 10 = -16$

0.6369

21) $-5.1 \cdot e^{10n+2} + 7.9 = 2$

−0.1854

22) $5.1 \cdot e^{10b+8} - 7 = 76.4$

−0.5206

23) $3 \cdot e^{4-3x} + 1.6 = 45.6$

0.4381

24) $-2 \cdot e^{9.4x-5} + 6 = -68.9$

0.9173