

## Solving Exponential Equations with Logarithms

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

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

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

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

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

$$17) 3.4e^{2-2n} - 9 = -4$$

$$18) -6e^{8n+8} - 3 = -23$$

$$19) -e^{-3.9n-1} - 1 = -3$$

$$20) -2e^{7v+5} - 10 = -17$$

$$21) -3e^{7a+9} + 6 = -6$$

$$22) -3e^{9x-1} + 6 = -58$$

$$23) -e^{6-9p} + 5 = -48.4$$

$$24) -10e^{2-2b} - 6 = -66$$

$$25) 6e^{-4k-10} - 4 = 63$$

$$26) 6e^{5x-6} - 4 = 50$$

## Solving Exponential Equations with Logarithms

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)  $3.4e^{2-2n} - 9 = -4$

0.8072

18)  $-6e^{8n+8} - 3 = -23$

-0.8495

19)  $-e^{-3.9n-1} - 1 = -3$

-0.4341

20)  $-2e^{7v+5} - 10 = -17$

-0.5353

21)  $-3e^{7a+9} + 6 = -6$

-1.0877

22)  $-3e^{9x-1} + 6 = -58$

0.4511

23)  $-e^{6-9p} + 5 = -48.4$

0.2247

24)  $-10e^{2-2b} - 6 = -66$

0.1041

25)  $6e^{-4k-10} - 4 = 63$

-3.1032

26)  $6e^{5x-6} - 4 = 50$

1.6394