

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