

Solve the following equations:

Remember that the arguments of all logarithms must be greater than 0. Also exponentials in the form of a^x will be greater than 0. Be sure to check all your answers in the original equation.

1. $3^{x-1} = 81$

22. $3^{x-2} = 81$

2. $8^x = 4$

23. $\log_3 x = 5$

3. $e^x = 5$

24. $\log_4 x = 3$

4. $-14 + 3e^x = 11$

25. $\log_2 2x = \log_2 100$

5. $-6 + \ln 3x = 0$

26. $\ln(x + 4) = \ln 7$

6. $\log(3x + 1) = 2$

27. $\log_3(2x + 1) = 2$

7. $\ln x - \ln 3 = 4$

28. $\log_5(x - 10) = 2$

Solve each equation. Rewrite so bases are equal if needed.

1) $3^{2n-2} = 9$

2) $625^{3x} = 125^{x+1}$

3) $3^{r+1} = 1$

4) $16^{2x} = 64$

5) $216^{x-2} = 36^{2x}$

6) $4^{-2x} = 4^{-x}$