

Solve for x . Write your final answer in terms of logarithm(s) in two different ways. Then evaluate your answer using a scientific calculator and round your answer to the thousandth place.

1. $7^x = 12$

2. $5^x = 30$

3. $6^{x-1} = 92$

4. $2^{2x} = 74$

5. $4^{2x} = 22$

6. $4 \cdot 2^{3x} = 132$

7. $10^{x+1} = 180$

8. $5 \cdot 7^{x-3} = 200$

Solve for x . Write your final answer in terms of a logarithm. Then evaluate your answer using a scientific calculator and round your answer to the thousandth place.

9. $10^x = 12$

10. $e^x = 14$

11. $10^{x-1} = 129$

12. $e^{2x} = 71$

13. $2e^{x+5} = 22$

14. $10^{3x} - 7 = 4$

15. $3e^{5x} = 72$

16. $4 \cdot 10^{2x+7} = 800$

Solve each equation for y in terms of x .

17. $e^{y+4} = x^3 + 5$

18. $x^2 = \ln(4y - 1)$

19. $x^4 = 6 + 10^{2y-3}$

20. $5 + \log(3y + 2) = x - 7$

Choose the correct multiple choice response:

21. $\log_5 7 =$

a. $\log 5 - \log 7$

b. $\log 7 - \log 5$

c. $7 \cdot \log 5$

d. $\frac{\log 7}{\log 5}$

22. $7^x = 14$

a. $x = 2$

b. $x = \log 14$

c. $x = \frac{\log 14}{\log 7}$

d. $x = \log 2$

23. If $x = \log_4 15$ which is true about x ?

a. $x < 0$

b. $0 < x < 1$

c. $1 < x < 2$

d. $x > 2$

24. $\log_8 20 =$

a. $\frac{\log 20}{\log 8}$

b. $\log\left(\frac{20}{8}\right)$

c. $\log 20 - \log 8$

d. $20 \log 8$

25. $e^x = 4$

a. $x = \log 4$

b. $x = \ln 4$

c. $x = \ln e^4$

d. $x = 4$

26. $2^x + 1 = 13$

a. $x = \log_2 13 - 1$

b. $x = 6$

c. $x = \frac{\log 12}{\log 2}$

d. $x = \log 6$