Problem	Solution

1. $e^{2x} - 4e^x - 12 = 0$

2. $2^{4y+1} = 3^y$

3. $5^{2x} + 5^x - 6 = 0$

4. $4(3)^{2x} = 12(9)^{x/2}$

5. $3(2^{5x+3}) = 18\left(4^{\frac{1}{2}x-2}\right)$

6. $5(7^x) = 0.25(1.5)^{x+1}$

7. $e^{2x} - e^x - 6$

8. $\dfrac{10}{1+e^{-x}} = 2$

9. $\dfrac{150}{75+e^{-\frac{3}{2}x}} = 1$

10. $\ln(x) = -4$

11. $\log_2(x+1) + \log_2(x) = 1$

12. $\log_3(x+1) + \log_3(x) = 1$

13. $\log_2(x^2+1) = 3$

14. $\ln(5x-1) - 2\ln(\sqrt{x}) = 0$

15. $\log(x) + \log(x+1) = \log(6)$

16. $\ln(x-3) + \ln(x-2) = \ln(4x-12)$

17. $\log_5 x - \log_5(x-2) = 2$

18. $\log(x+1) + \log(x-1) = \log 8$

19. $\log(x+1) - \log(x-1) = \log 8$

20. $\log_9(x) + \log_9(x-8) = 1$

21. $\log_2(x) - \log_2(\sqrt{x}-1) = 2$

22. $2\ln(\sqrt{x}) - \ln(1-x) = 2$

Problem	Solution

23. $\dfrac{e^x\left(x^2+1\right)-2xe^x}{\left(x^2+1\right)^2}=0$

24. $\dfrac{e^{x^2}}{e^x}=\ln(e)$

25. $2\ln(5)+\dfrac{1}{2}\ln(9)-\ln(3)=\ln(x)$

26. $\ln(x+2)=\ln(4)+\ln(3)$

27. $\ln(3x+4)-\ln(2x+1)=5$

28. $y=\log_2(x-3)-5$

29. $y+5=7^{x+3}$

30. $e^{-x^2+2x}=3y-2$