1. Solve the equation below for x.

$$2^{5x+2} = \left(\frac{1}{9}\right)^{4x-5}$$

2. Solve the equation below for x.

$$14 = \sqrt[5]{\frac{29}{e^{4x}}}$$

3. Describe the Domain of the function below.

$$f(x) = -\log_2(x+2) + 7$$

4. Solve the equation below for x.

$$\log_4 (3x + 8) + 6 = 2$$

5. Describe the Domain of the function below.

$$f(x) = -\log_2(x-6) + 7$$

6. Solve the equation below for x.

$$3^{-5x+3} = 125^{-2x-4}$$

7. Describe the Range of the function below.

$$f(x) = e^{x-1} - 4$$

8. Solve the equation below for x.

$$11 = \ln \sqrt[6]{\frac{30}{e^{3x}}}$$

9. Solve the equation below for x.

$$\log_4 (2x + 6) + 4 = 3$$

10. Describe the Domain of the function below.

$$f(x) = -e^{x-9} - 3$$

11. Solve the equation below for x.

$$4^{-4x-4} = \left(\frac{1}{25}\right)^{2x-2}$$

12. Solve the equation below for x.

$$14 = \ln \sqrt[7]{\frac{5}{e^{4x}}}$$

13. Describe the Domain of the function below.

$$f(x) = -\log_2(x-8) + 4$$

14. Solve the equation below for x.

$$\log_2(-3x+6)+5=2$$

15. Describe the Domain of the function below.

$$f(x) = -\log_2(x+4) + 7$$

16. Solve the equation below for x.

$$5^{4x+2} = 16^{3x+5}$$

17. Describe the Domain of the function below.

$$f(x) = e^{x-2} - 7$$

18. Solve the equation below for x.

$$15 = \ln \sqrt[6]{\frac{28}{e^{6x}}}$$

19. Solve the equation below for x.

$$\log_4(-3x+5)+6=3$$

20. Describe the Domain of the function below.

$$f(x) = -e^{x-9} + 9$$

21. Solve the equation below for x.

$$2^{4x-5} = \left(\frac{1}{125}\right)^{5x+5}$$

22. Solve the equation below for x.

$$15 = \sqrt[4]{\frac{11}{e^{3x}}}$$

23. Describe the Range of the function below.

$$f(x) = \log_2 (x + 5) + 2$$

24. Solve the equation below for x.

$$\log_2(-2x+5)+6=2$$

25. Describe the Domain of the function below.

$$f(x) = \log_2 (x + 5) - 7$$

26. Solve the equation below for x.

$$2^{2x+4} = \left(\frac{1}{27}\right)^{3x+3}$$

27. Describe the Range of the function below.

$$f(x) = -e^{x+8} + 5$$

28. Solve the equation below for x.

$$5 = \ln \sqrt[3]{\frac{10}{e^{7x}}}$$

29. Solve the equation below for x.

$$\log_4(4x+6)+6=2$$

30. Describe the Range of the function below.

$$f(x) = -e^{x+3} - 5$$