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.

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