1. Use a calculator to find a 3 decimal approximation to each of the following:
   \[ e^2 = \quad , \quad e^{-2} = \quad , \quad \frac{1}{e} = \quad , \quad e^{2.4} = \quad . \]

2. Use a calculator to find a 3 decimal approximation to each of the following:
   \[ \ln 3 = \quad , \quad \log_7 3 = \quad , \quad \log 3 = \quad , \quad \ln 1.24 = \quad . \]

3. Convert the following equations to logarithmic equations:
   \[ 4^x = 5; \quad , \quad e^{2x-3} = 7; \quad , \quad x = 3^{2.3}; \]

4. Convert the following equations to exponential equations:
   \[ \ln x = 5; \quad , \quad \log_4 w = 7; \quad , \quad x = \log 3; \]

5. Solve for \( x \):
   \[ e^{x+5} = 4; \quad , \quad 4^{3x-1} = 7^x; \quad , \quad 3.2^{0.3x} = 65.2; \]

6. Solve for \( x \):
   \[ \ln x = 5; \quad , \quad \log_4 (x - 2) = 7; \quad , \quad \log(2x + 1) = 48.7; \]

7. Sketch the curves \( y = e^x - 3 \).

8. Sketch the curves \( y = 4^{x-3} \).
9. Sketch the curves \( y = \ln(x - 3) \).

10. Sketch the curves \( y = 3 + \log_4 x \).

11. The demand function for a product is modeled by: \( p = 6000 - 5e^{0.0003x} \) where \( p \) is the price if \( x \) units are demanded.

   Find the price if \( x = 10,000 \) units.

   Find the number of units if the price is \( p = 5000 \).

12. Jamus obtained a six year (72 months) car loan for $30,000 at 5.5%. Jamus makes monthly payments of $494.36. The amount Jamus owes after making \( k \) monthly payments is given by \( A = \frac{5932.3116}{0.055} (1 - 1.0045833^{k-72}) \).

   How much does Jamus owe after making 36 monthly payments?

   How many monthly payments does Jamus need to make to reduce the amount owed to $15,000?