1. Calculate the derivative of
\[ y = \frac{3}{x^4} + 5e^x - 9\ln x + \frac{2x}{6} + e^5 \]

2. Calculate the antiderivative of
\[ f(x) = \frac{3}{x^4} + 5e^x - 9x^{-1} + \frac{2x}{6} + e^5 \]
3. Solve the initial value problem

\[ y' = 2x^7 - x^2, \quad y(1) = 2 \]

4. Solve the initial value problem

\[ y' = 0.6y, \quad y(0) = 21 \]