

Exercise 1. Explain what does the mnemonic **LIATE** or **LIPTE** means and how should one use it when integrating by parts.

Exercise 2. When using integration by parts, give an example of an integral where $dv = 1dx$ and u is the function we are looking to integrate. It is **not required** to solve the integral.

Exercise 3. Find an antiderivative for the function $\log^2(x)$ using integration by parts.

Exercise 4. Use integration by parts to evaluate the integral $\int \left(\frac{\log(x)}{x} \right)^3 dx$.