



Norwegian University of Science
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Department of Mathematical
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TMA4122
Matematikk 4M
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Exercise set 8

In all problems you are supposed to show the details of your work and describe what you are doing.

- 1 Find the cubic spline $g(x)$ for the function $f(x)$ if we only know that $f(-2) = f(-1) = f(1) = f(2) = 0$, $f(0) = 1$ and $f'(-2) = f'(2) = 0$.
- 2 Evaluate the integral $\int_1^2 \frac{1}{x} dx$ using the Trapezoidal rule integration and the Simpson rule integration with $n = 4$. Which n we will need in each method to have an error less than 10^{-6} ?