Integral Equations in Visual Computing
Summer term 2008
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Assignment H4

Deadline for submission:
Thursday , June 12th, 10:00, at the **beginning** of the lecture

Problem 1: (4 points)
Show that

$$\mathcal{L}[\delta] = 1\,.$$

Problem 2: (4 points)
Solve the integral equation

$$u(x) = \frac{1}{2}\sin(2x) + \int_0^x u(t) \cdot u(x-t)\; d\,t.$$

Problem 3: (4 points)
Solve the following integro-differentiali equation

$$\int_0^x u'(t) \cdot u(x-t)\; d\,t = 24x^3\,,$$

with $u(0) = 0\,.$