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Lehrgebiet Theoretische Informatik
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SS 2012
Tutorial 12
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Analysis of Algorithms — Tutorial

Today's tutorial will be based on the following GF:

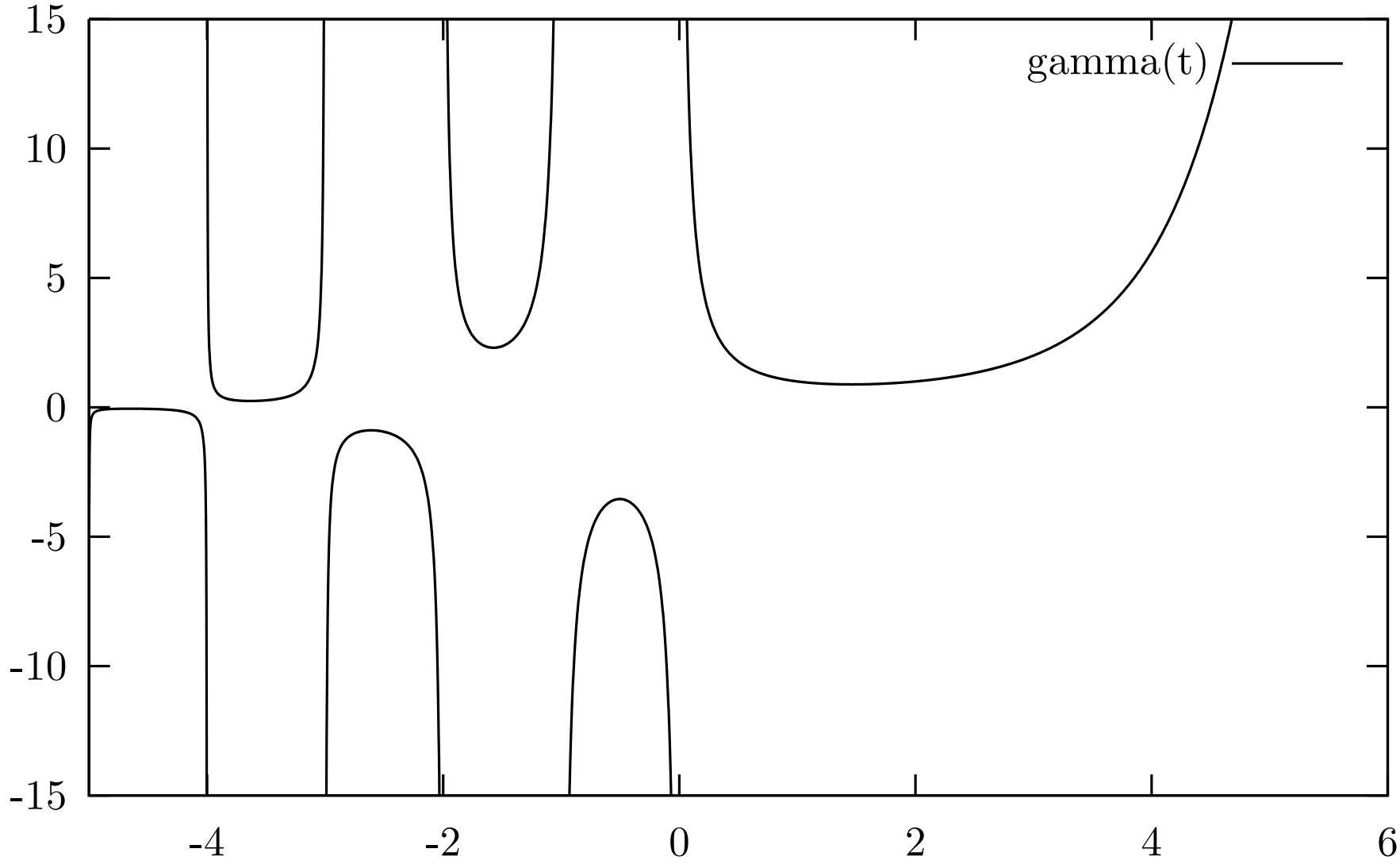
$$U(z) := \frac{1 - z - \sqrt{(1-3z)(1+z)}}{2z}.$$

Problem 12-1
Find a closed formula for $f(n)$ such that $[z^n]U(z) \sim f(n)$

Problem 12-2
Let $V(z) := -\sqrt{(1-3z)(1+z)}$. What is the relation of $[z^n]V(z)$ and $[z^n]U(z)$?

Problem 12-3
Compute $W(z) := V(z) + 2/\sqrt{3}\sqrt{1-3z}$ and estimate $[z^n]W(z)$ *as good as possible.*

Problem 12-4
What follows for $[z^n]V(z)$?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