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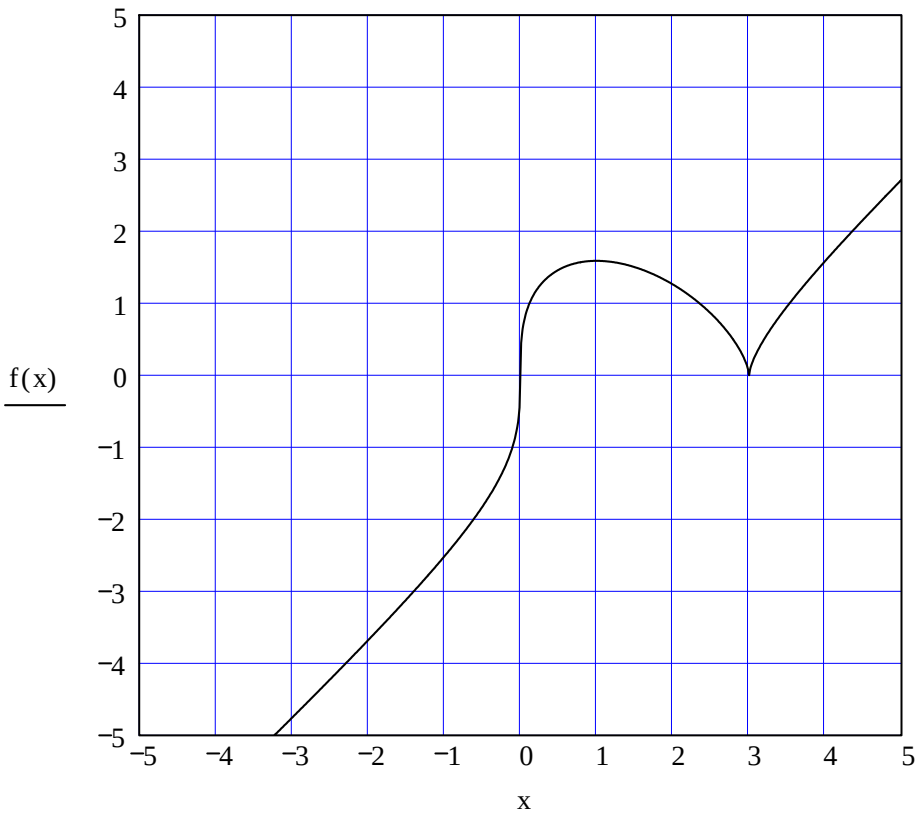
Graphics

Asymptotics

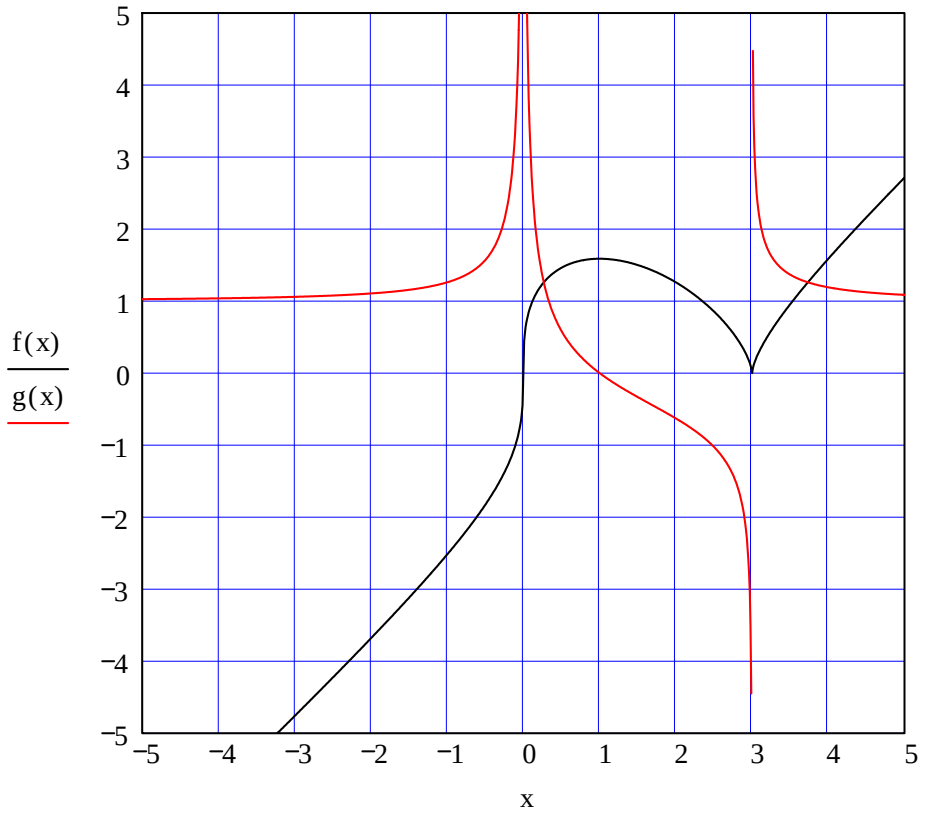
$$f(x) := \sqrt[3]{x\cdot(x-3)^2}$$



$\sqrt[3]{x\cdot(x-3)^2}$ by differentiation, yields

$$\frac{1}{3\cdot\left[x\cdot(x-3)^2\right]^{\frac{2}{3}}}\cdot\left[(x-3)^2+2\cdot x\cdot(x-3)\right]$$

$$g(x) := \frac{1}{3\cdot\sqrt[3]{\left[x\cdot(x-3)^2\right]^2}}\cdot\left[(x-3)^2+2\cdot x\cdot(x-3)\right]$$



Given $g(x) = 0$ Find$(x) \to 1$

$$\lim_{x \to \infty} \frac{f(x)}{x} \to 1 \qquad \lim_{x \to \infty} (f(x) - x) \to -2$$

$h(x) := x - 2$