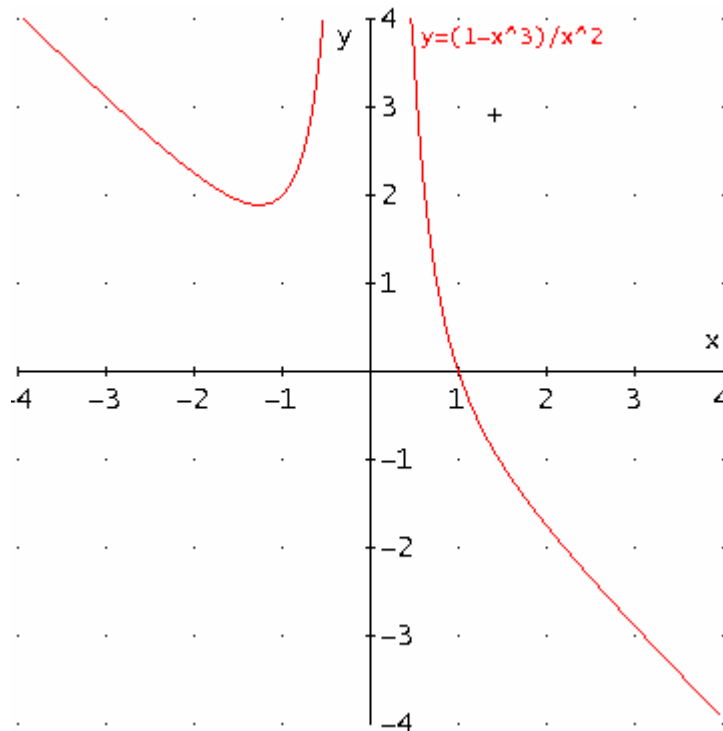


Vyšetřete průběh funkce  $f(x)$  dané předpisem

$$f(x) := \frac{1 - x^3}{x^2}$$



$$f'(x) = -\frac{x^3 + 2}{x^3}$$

$$f''(x) = \frac{6}{x^4}$$

$$\lim_{x \rightarrow -\infty} f(x) = \infty$$

$$\lim_{x \rightarrow \infty} f(x) = -\infty$$

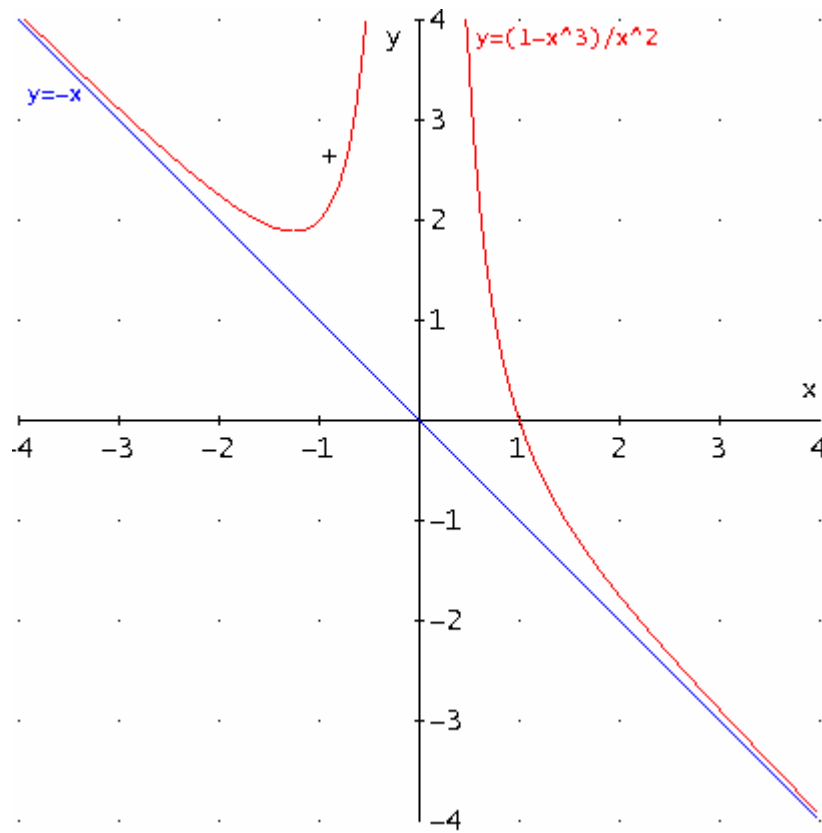
$$\lim_{x \rightarrow 0^-} f(x) = \infty$$

$$\lim_{x \rightarrow 0^+} f(x) = \infty$$

$$\lim_{x \rightarrow 0} f(x) = \infty$$

$$\text{TANGENT}(f(x), x, \infty) = -x$$

$$\text{TANGENT}(f(x), x, -\infty) = -x$$



SOLVE( $f'(x)$ ,  $x$ , Real)

$$x = -\frac{2}{3}$$

SB := SOLUTIONS( $f'(x)$ ,  $x$ , Real)

$$(\text{SB} := \text{SOLUTIONS}(f'(x), x, \text{Real})) = \text{SB} := \left[ -\frac{2}{3} \right]$$

$$f''(\text{SB}_1) = \frac{3 \cdot 2^{2/3}}{2}$$

$$f''(\text{SB}_1) = 2.381101577$$

SOLVE( $f''(x) > 0$ ,  $x$ )

true

SOLVE( $f''(x) < 0$ ,  $x$ )

false