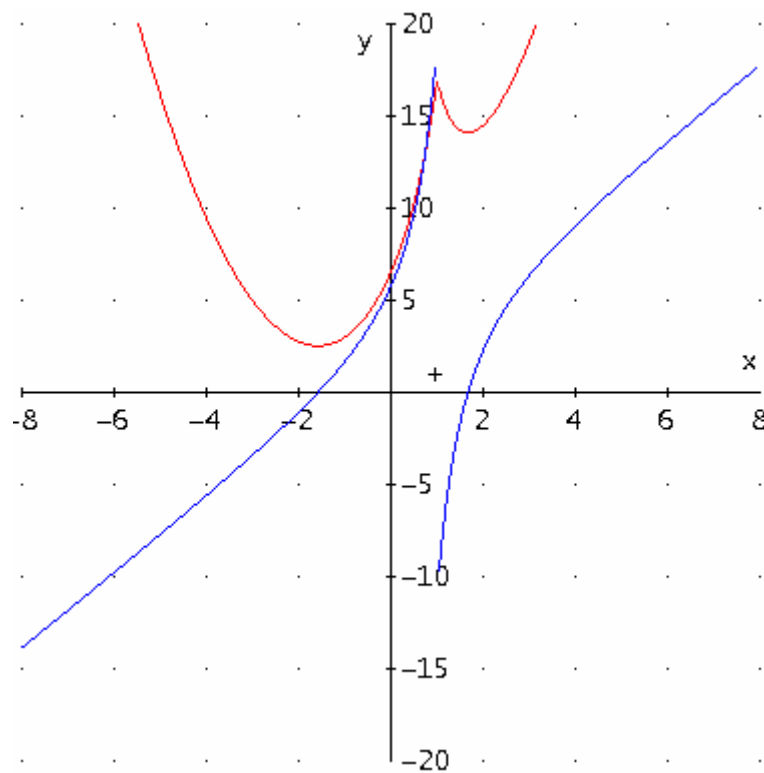


Vyšetřete derivaci funkce $f(x)$ v bodě $x=1$.

$x \in \text{Reál}$

$$f(x) := \frac{15}{1 + |x - 1|} + x^2 + 2 \cdot x - 1$$

$$f'(x) = \frac{(4 \cdot x^2 - 19) \cdot \text{SIGN}(x - 1) + 2 \cdot (x^3 - x^2 + 2)}{(|x - 1| + 1)^2}$$



$$f'(1) = \pm 15 + 4$$

$x \in \text{Reál } [1, \infty)$

$$f'(x) = \frac{2 \cdot x^3 + 2 \cdot x^2 - 15}{x^2}$$

$$\lim_{x \rightarrow 1^+} f'(x) = -11$$

$x \in \text{Real } (-\infty, 1]$

$$f'(x) = \frac{2 \cdot x^3 - 6 \cdot x^2 + 23}{(x - 2)^2}$$

$$\lim_{x \rightarrow 1^-} f'(x) = 19$$