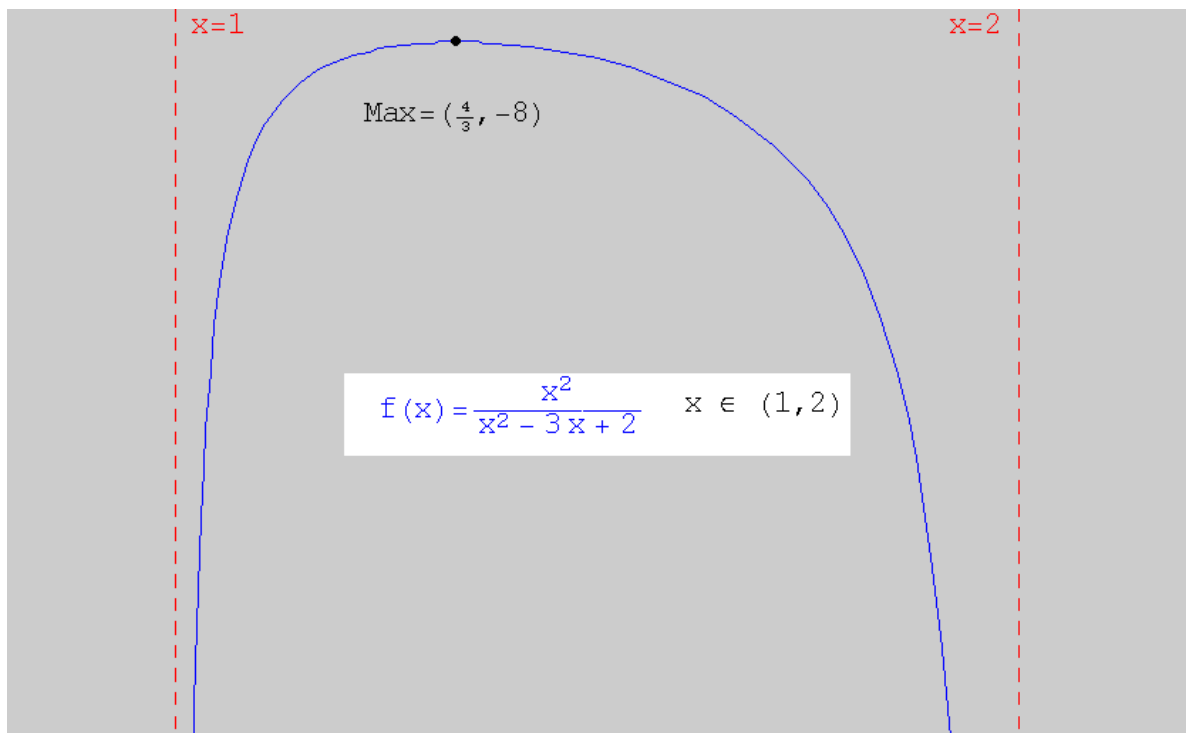
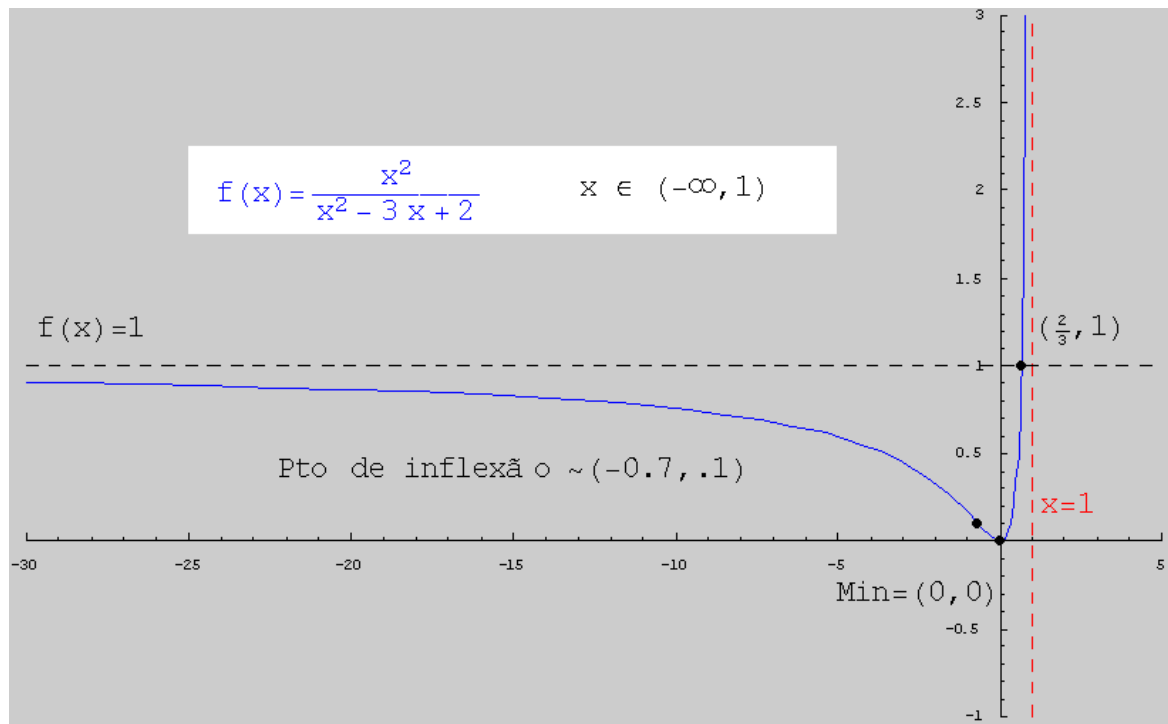


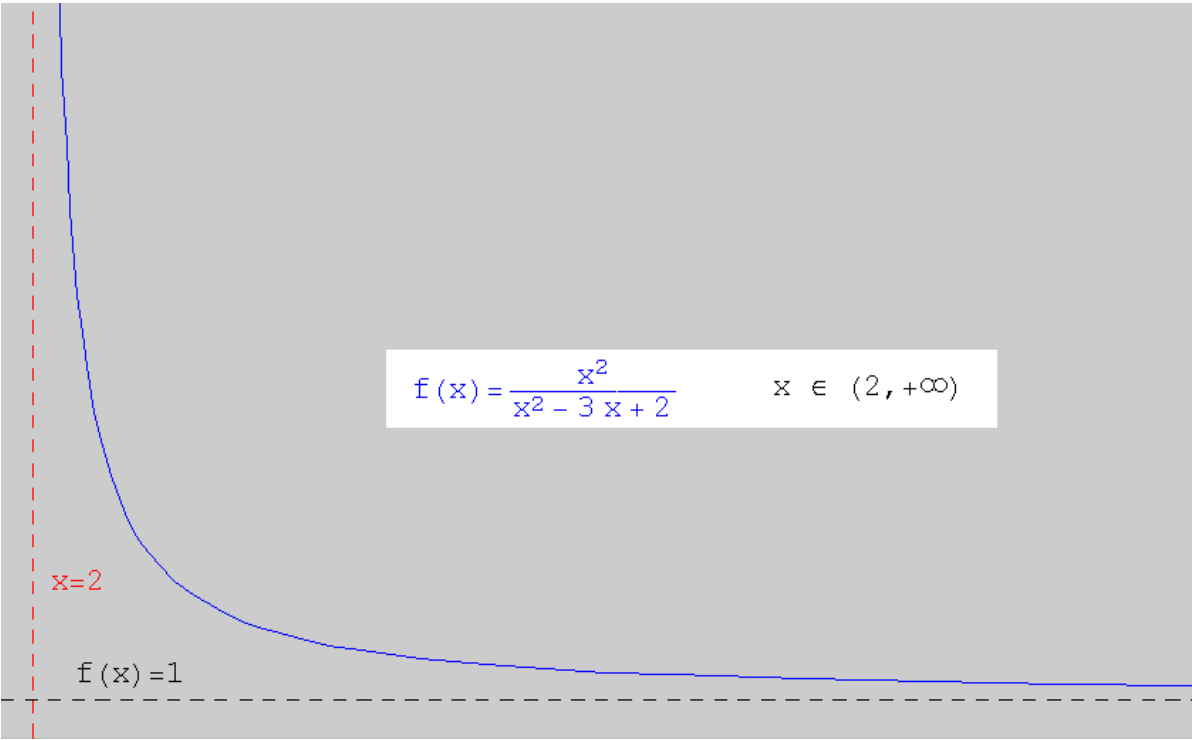
Estudo de Funções

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

1	DOMÍNIO	$f : A \rightarrow B$	$A = \mathbb{R} - \{1, 2\}$
2	ZEROS	$f(x) = 0$ $x = 0 \Rightarrow y = 0$	(x, y) $(0, 0)$
3	$x \rightarrow \pm\infty$	$\lim_{x \rightarrow -\infty} f(x) = 1^-$ $\lim_{x \rightarrow +\infty} f(x) = 1^+$	$(-\infty, 1^-)$ $(+\infty, 1^+)$
4	ASSÍNTOTAS	$x = 1$, $x = 2$ $\lim_{x \rightarrow 1^-} f(x) = +\infty$ $\lim_{x \rightarrow 1^+} f(x) = -\infty$ $\lim_{x \rightarrow 2^-} f(x) = -\infty$ $\lim_{x \rightarrow 2^+} f(x) = +\infty$	$(1^-, +\infty)$ $(1^+, -\infty)$ $(2^-, -\infty)$ $(2^+, +\infty)$
5	MAX - MIN	$f'(x) = 0$ $x = 0 \Rightarrow y = 0$ $x = 4/3 \Rightarrow y = -8$	$(0, 0)_{min}$ $(4/3, -8)_{max}$
6	PONTO DE INF.	$f''(x) = 0$	SIM: UM $x < 0$

$$f'(x) = \frac{4x - 3x^2}{(x^2 - 3x + 2)^2}$$

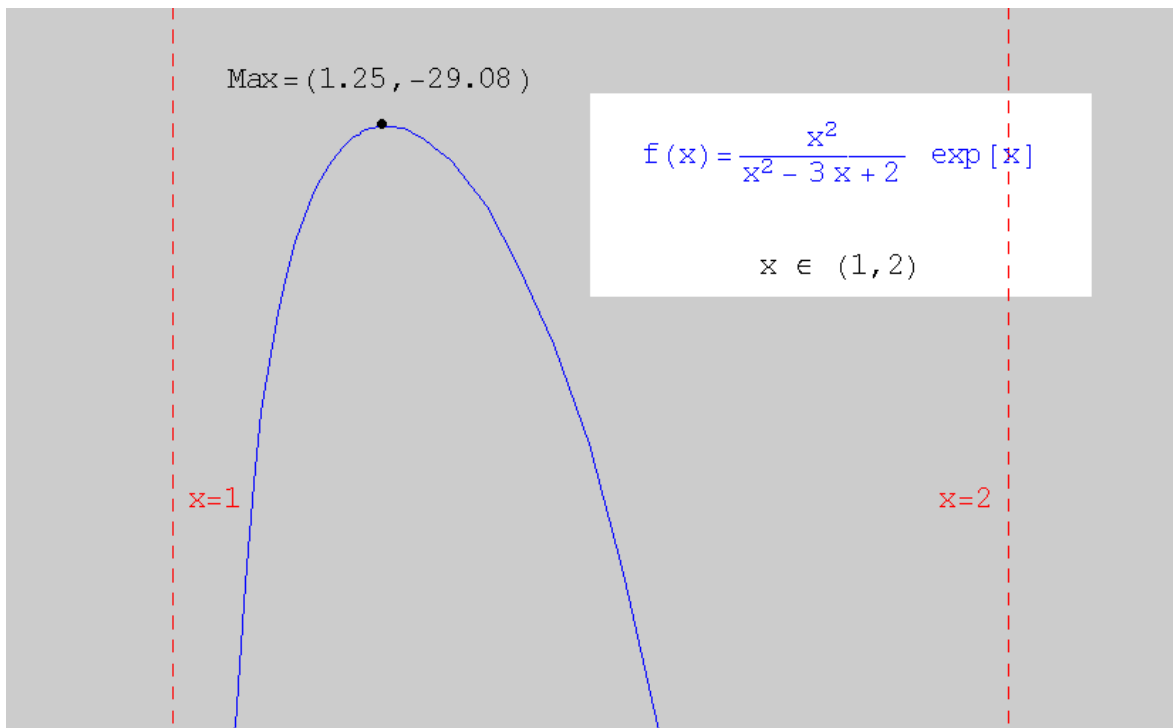
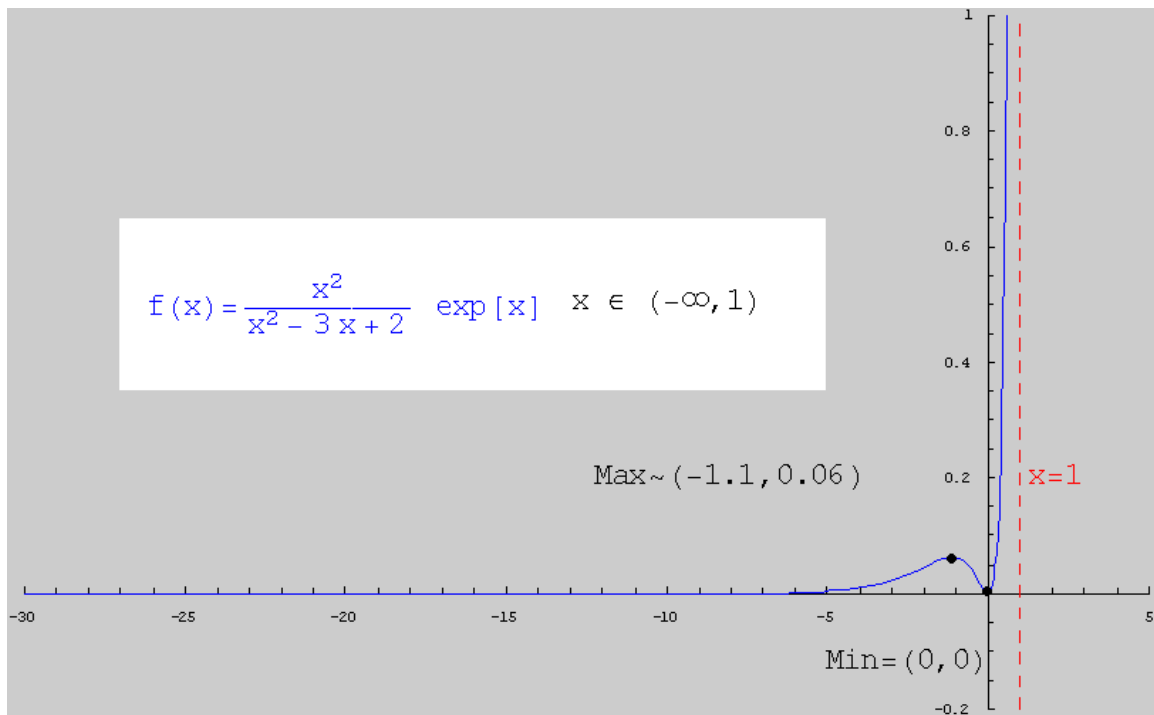


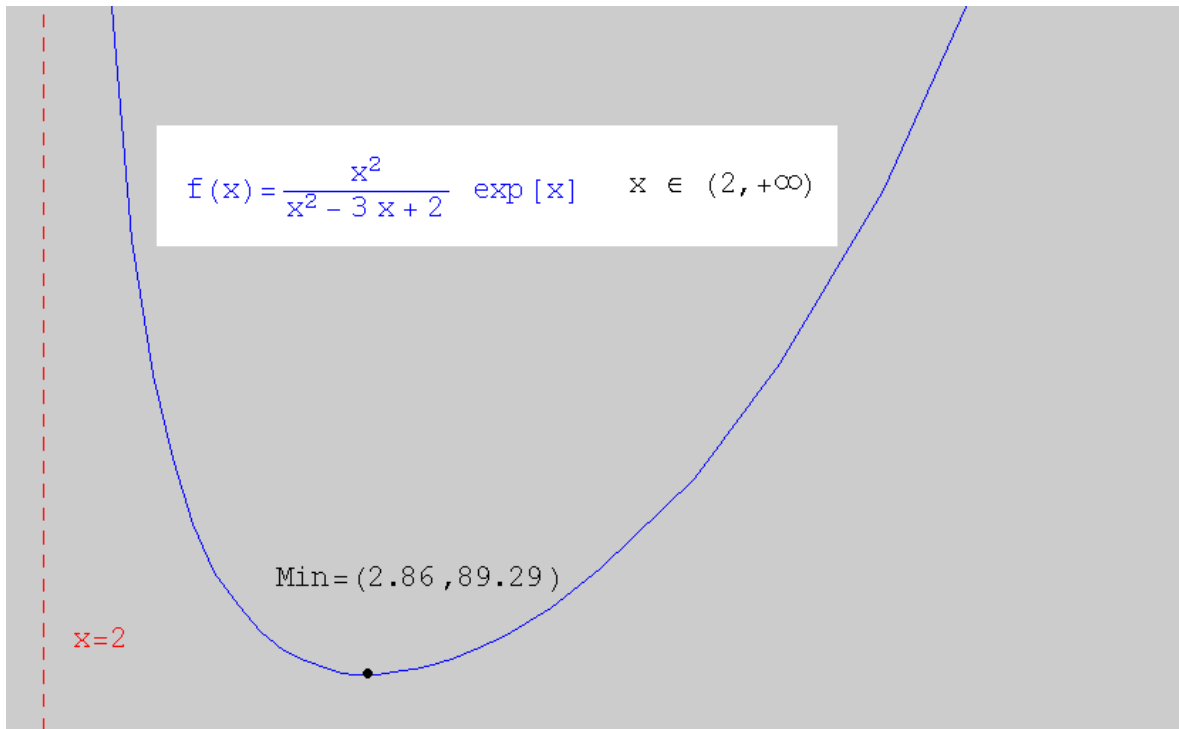


$$f(x) = \frac{x^2}{x^2 - 3x + 2} \exp[x]$$

1	DOMÍNIO	$f : A \rightarrow B$	$A = \mathbb{R} - \{1, 2\}$
2	ZEROS	$f(x) = 0$ $x = 0 \Rightarrow y = 0$	(x, y) $(0, 0)$
3	$x \rightarrow \pm\infty$	$\lim_{x \rightarrow -\infty} f(x) = 0^+$ $\lim_{x \rightarrow +\infty} f(x) = +\infty$	$(-\infty, 0^+)$ $(+\infty, +\infty)$
4	ASSÍNTOTAS	$x = 1, x = 2$ $\lim_{x \rightarrow 1^-} f(x) = +\infty$ $\lim_{x \rightarrow 1^+} f(x) = -\infty$ $\lim_{x \rightarrow 2^-} f(x) = -\infty$ $\lim_{x \rightarrow 2^+} f(x) = +\infty$	$(1^-, +\infty)$ $(1^+, -\infty)$ $(2^-, -\infty)$ $(2^+, +\infty)$
5	MAX - MIN	$f'(x) = 0$ $x \approx -1.1 \Rightarrow y \approx 0.06$ $x = 0 \Rightarrow y = 0$ $x \approx 1.25 \Rightarrow y \approx -29.08$ $x \approx 2.86 \Rightarrow y \approx 89.29$	$(-1.1, 0.06)_{max}$ $(0, 0)_{min}$ $(1.25, -29.08)_{max}$ $(2.86, 89.29)_{min}$
6	PONTO DE INF.	$f''(x) = 0$	SIM: DOIS $x < 0$

$$f'(x) = \frac{x(x^3 - 3x^2 - x + 4)}{(x^2 - 3x + 2)^2} \exp[x]$$





Estudo de Funções - aula do dia 3/10

