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

=> keine waagerechte Asymptote

senkrechte Asymptote $x = 3$

Nullstelle $x = 0$

$x \to +\infty : f(x) \to +\infty$

$x \to +\infty : f(x) \to -\infty$

S. 141 Nr. 7

a) $f_a(x) = x^2 - ax + 4$

$f_a'(x) = 2x - a$

$f_a''(x) = 2$

$f'(x) = 0$

$0 = 2x - a$

$\frac{a}{2} = x$

$f''(x) > 0$ Tiefpunkt

$f_a\left(\frac{a}{2}\right) = \left(\frac{a}{2}\right)^2 - a \cdot \frac{a}{2} + 4$

$= \frac{a^2}{4} - \frac{2a^2}{4} + 4$

$= -\frac{a^2}{4} + 4$

$TP\left(\frac{a}{2} \mid -\frac{a^2}{4} + 4\right)$

$-\frac{a^2}{4} + 4 = 0$

$a^2 = 1 \quad \Rightarrow \quad a_1 = 1 \quad a_2 = -1$