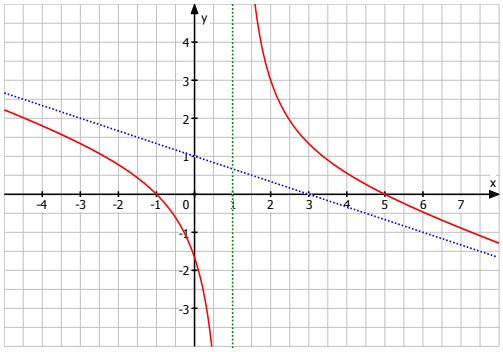
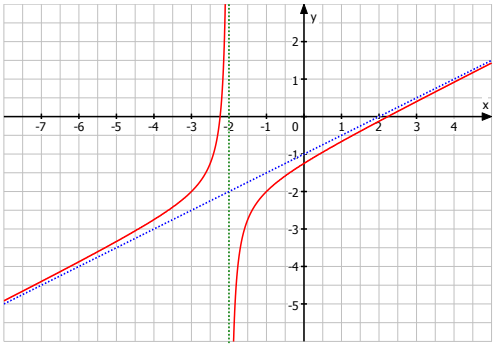
Q11 * Mathematik * Schräg liegende Asymptoten für $x \to \pm\infty$

Leiten Sie mit Hilfe einer Polynomdivision die Gleichung der schräg liegenden Asymptote her.

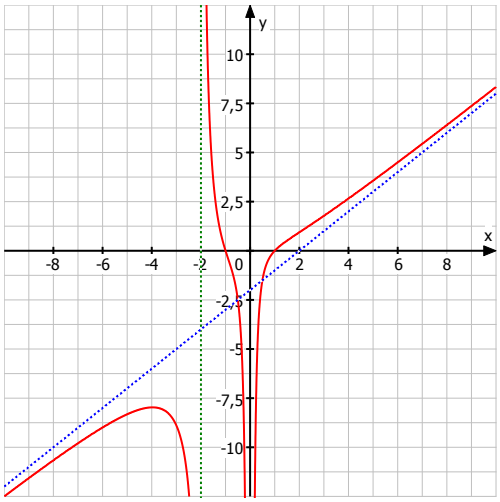
$$f(x)=\frac{-x^2+4x+5}{3x-3}=\ldots=-\frac{1}{3}x+1+\frac{8}{3x-3}$$



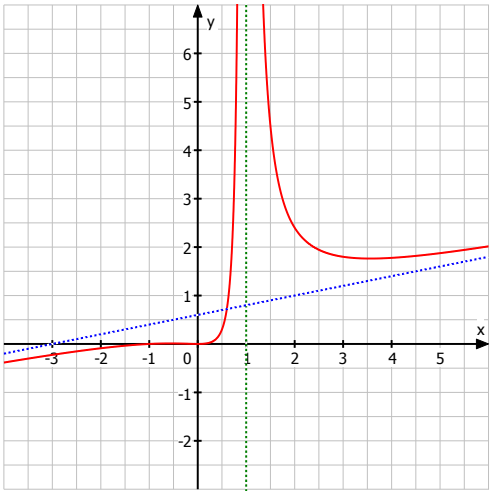
$$g(x)=\frac{x^2-5}{2x+4}=\ldots=0{,}5x-1-\frac{1}{2x+4}$$



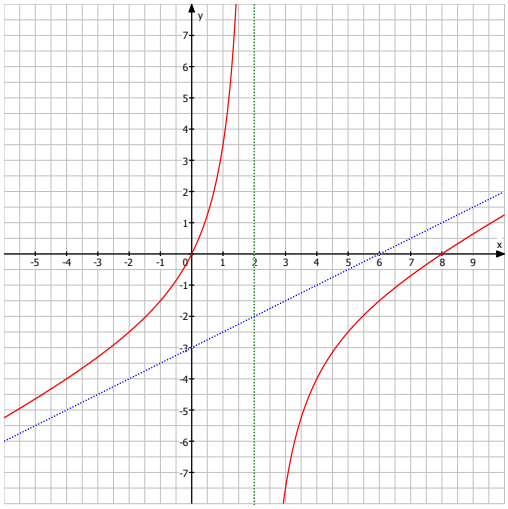
$$k(x)=\frac{x^4-1}{x^3+2x^2}=\ldots=x-2+\frac{4x^2-1}{x^3+2x^2}$$



$$m(x)=\frac{x^2(x+1)}{5(x-1)^2}=\ldots=0{,}2x+0{,}6+\frac{5x-3}{5(x-1)^2}$$



$$n(x)=\frac{x}{2}-\frac{3x}{x-2}=\ldots=0{,}5x-3-\frac{6}{x-2}$$



$$p(x)=\frac{x}{x+1}+\frac{x^2+2}{x-1}=\ldots=x+2+\frac{2x+4}{x^2-1}$$