Klasse	Art	Schwierigkeit	Thema	S. 16
11	**Üben**	**X**	**Gebrochen-rationale Funktionen 3**	**2**

a) $f(x) = \frac{4}{2x+1}$; $D_f = \mathbb{R} \setminus \{-\frac{1}{2}\}$; Asymptoten : $y = 0$; $x = -\frac{1}{2}$

b) $f(x) = \frac{x-1}{x+1}$; $D_f = \mathbb{R} \setminus \{-1\}$; Asymptoten : $y = 1$; $x = -1$

c) $g(x) = \frac{3-2x}{4x^2-1}$; $D_g = \mathbb{R} \setminus \{\pm\frac{1}{2}\}$; Asymptoten : $y = 0$; $x = \pm\frac{1}{2}$

d) $g(x) = \frac{3+2x^2}{4x^2+1}$; $D_g = \mathbb{R}$; Asymptoten : $y = \frac{1}{2}$

e) $f(x) = \frac{2x^3-1}{4x^2-x^3}$; $D_f = \mathbb{R} \setminus \{0 ; 4\}$; Asymptoten : $y = -2$; $x = 0$; $x = 4$

f) $g(x) = \frac{3x^2-2x}{2x-1} = 1{,}5x - 0{,}25 - \frac{0{,}25}{2x-1}$; $D_g = \mathbb{R} \setminus \{\frac{1}{2}\}$;

schiefe Asymptote: $y = 1{,}5x - 0{,}25$; senkrechte Asymptote: $x = \frac{1}{2}$

g) $s(x) = x - \frac{1}{x-1}$; $D_s = \mathbb{R} \setminus \{1\}$;

schiefe Asymptote: $y = x$; senkrechte Asymptote: $x = 1$

h) $g(x) = \frac{3x}{(x-2)^2}$; $D_g = \mathbb{R} \setminus \{2\}$; Asymptoten : $y = 0$; $x = 2$