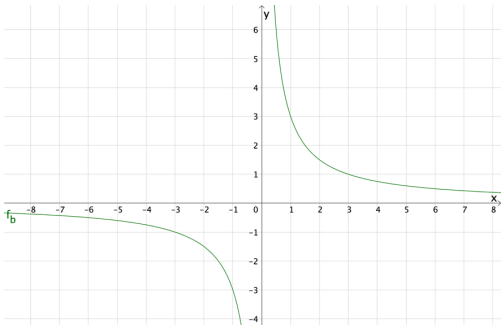
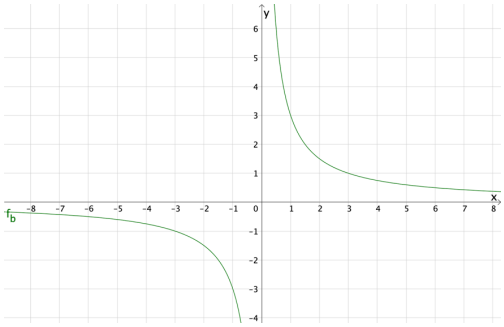
Lösungen

S. 144 Nr. 3 linke Spalte (a,c,e,g,i)

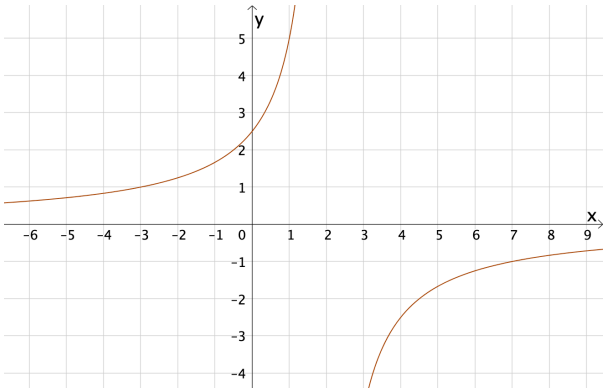
a) $\lim\limits_{x \to +\infty} \frac{3}{x} = 0$



b) $\lim\limits_{x \to -\infty} \frac{3}{x} = 0$

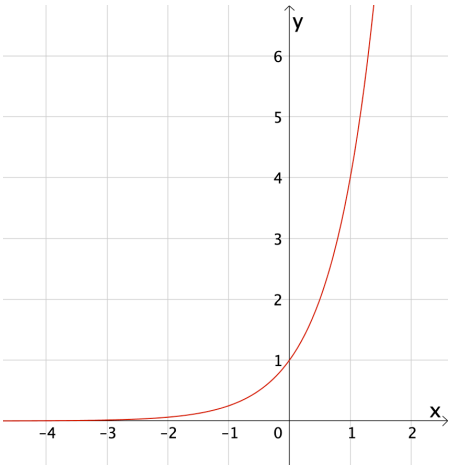


c) $\lim\limits_{x \to +\infty} \frac{-5}{x-2} = 0$

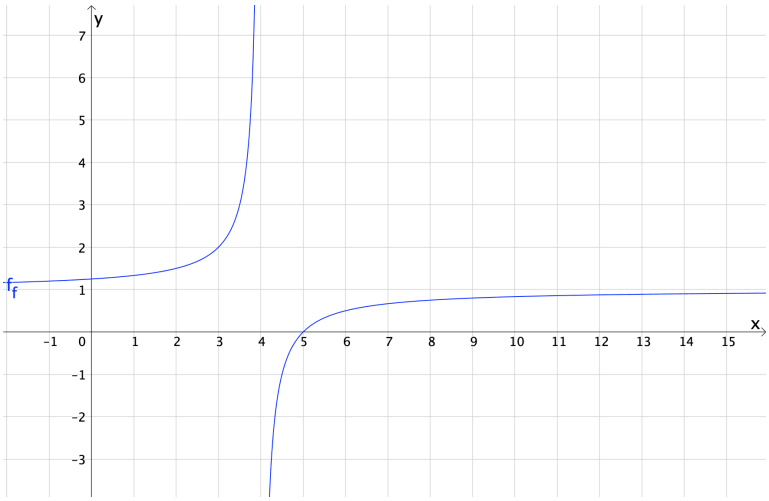


d) $\lim\limits_{x \to +\infty} 4^x = +\infty$

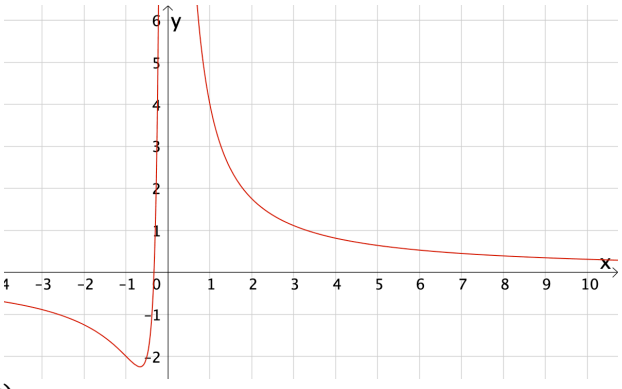
e) $\lim\limits_{x \to -\infty} 4^x = 0$



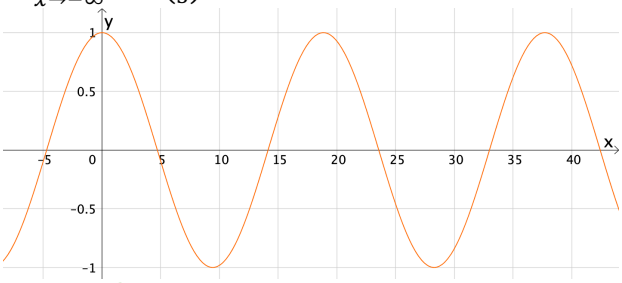
f) $\lim\limits_{x\to+\infty} \frac{x-5}{x-4} = 1$



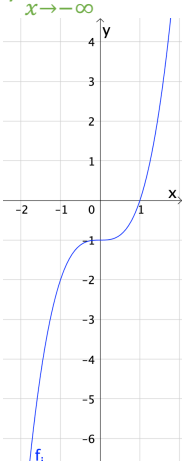
g) $\lim\limits_{x\to+\infty} \frac{3x+1}{x^2} = 0$



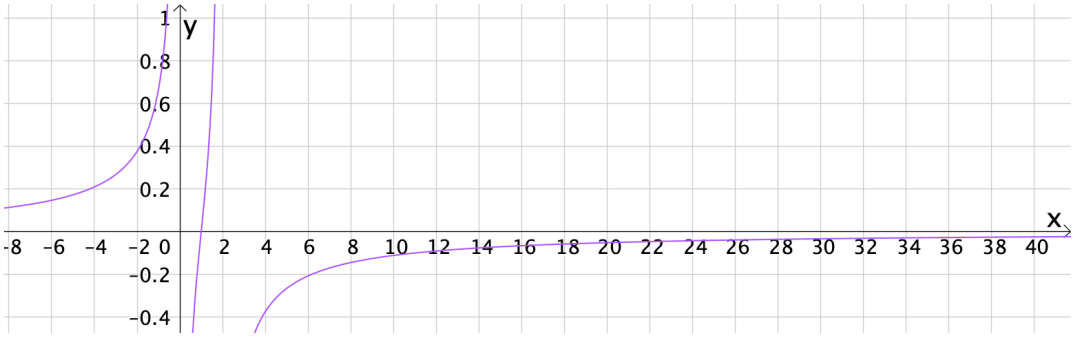
h) $\lim\limits_{x\to-\infty} \cos\left(\frac{x}{3}\right)$ unbestimmt divergent



i) $\lim\limits_{x\to-\infty} x^3 - 1 = -\infty$



k) $\lim\limits_{x \to +\infty} \frac{x-1}{2x-x^2} = 0$



S. 145 Nr. 7

Aufgabe	Waagerechte. Asymptote	Grenzwert $x \to +\infty$
a)	$y = 0$	$\lim\limits_{x \to +\infty} \frac{4}{x-2} = 0$
b)	$y = \frac{3}{2}$	$\lim\limits_{x \to +\infty} \frac{3x+4}{2x+1} = \frac{3}{2}$
c)	$y = 3$	$\lim\limits_{x \to +\infty} 3 - \frac{2}{x+1} = 3$
d)	$y = 0$	$\lim\limits_{x \to +\infty} \frac{2x}{x^2+1} = 0$