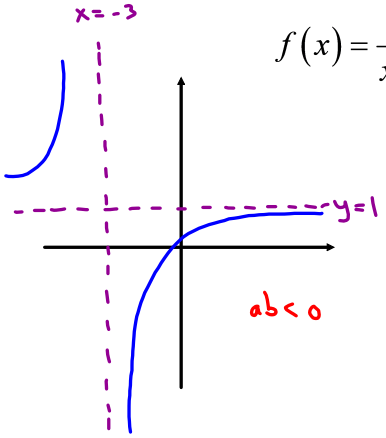
Sketch and list properties for the function $f(x)=\frac{-2}{x+3}+1$ p.67 #1,2,4



Vertical asymptote: $x=-3$

Horizontal asymptote: $y=1$

domf : $\mathbb{R}\setminus\{-3\}$

ranf : $\mathbb{R}\setminus\{1\}$

extrema: $\emptyset$

Intercepts:

y-int

$f(0)=\frac{-2}{0+3}+1$

$=\frac{-2}{3}+1=\frac{1}{3}$

x-int

$0=\frac{-2}{x+3}+1$

$-1=\frac{-2}{x+3}$

$-1(x+3)=-2$

$-x-3=-2$

$-x=1$

$x=-1$

Variation:

$f\nearrow : \mathbb{R}\setminus\{-3\}$

$f\searrow : \emptyset$

Sign

asymptote x-int

$f(x)\geq 0 :]-\infty,-3[\cup[-1,\infty[$

$f(x)<0 :]-3,-1[$

Inverse:

A rational function