

# PreCalculus Quiz

Your Name:

Sketch the graph of the function and provide the required information.

1.  $f(x) = \frac{x-2}{x+1}$

domain

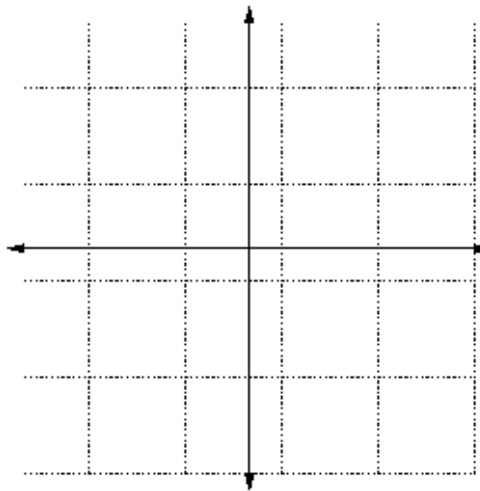
range

increasing

decreasing

as  $x \rightarrow -1^-$ ,

$f(x) \rightarrow$

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

domain

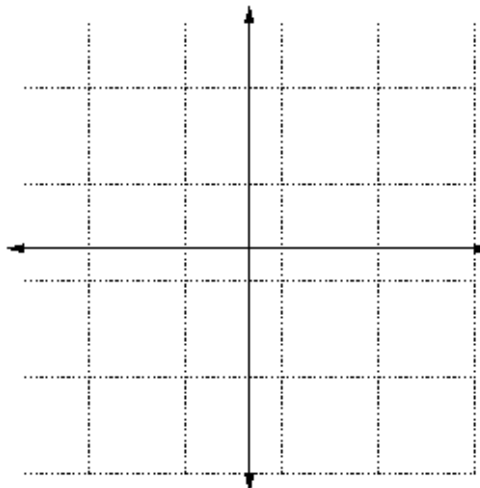
range

increasing

decreasing

as  $x \rightarrow 0^+$ ,

$f(x) \rightarrow$

3.  $f(x) = 1 + \ln x$

domain

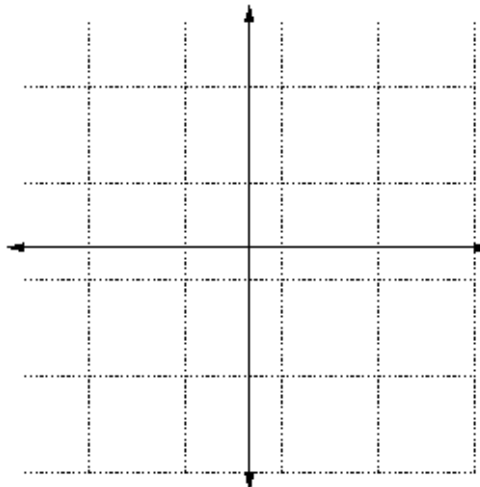
range

increasing

decreasing

as  $x \rightarrow 2^-$ ,

$f(x) \rightarrow$

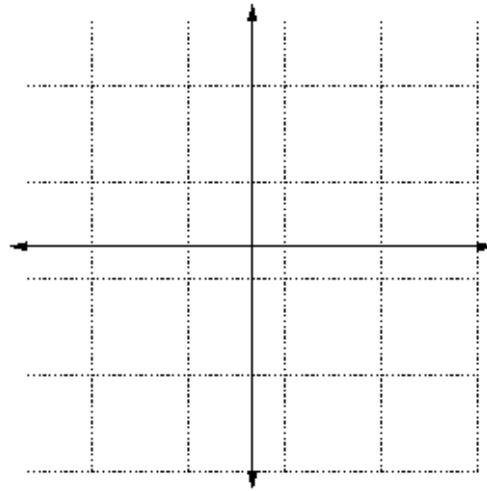
Construct an example function and graph that has the given characteristics.

4.

always increasing

as...  $x \rightarrow 0^-$ ,  $f(x) \rightarrow \infty$

as...  $x \rightarrow 0^+$ ,  $f(x) \rightarrow -\infty$

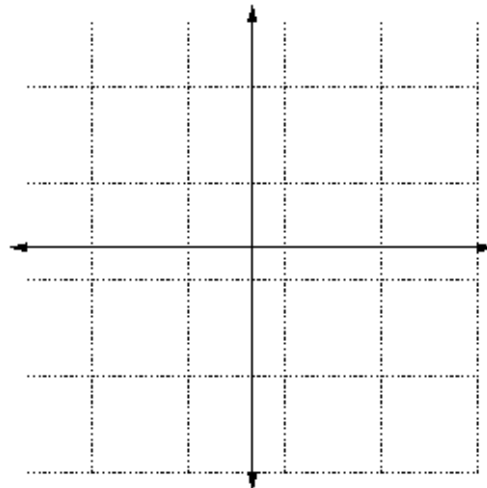


5.

increasing on  $[-\infty, -3)$

increasing on  $(0, \infty]$

decreasing on  $(-3, 0)$



6.

as...  $x \rightarrow -4^-$ ,  $f(x) \rightarrow +\infty$

as...  $x \rightarrow 5^+$ ,  $f(x) \rightarrow +\infty$

as...  $x \rightarrow 0^-$ ,  $f(x) \rightarrow 0$

