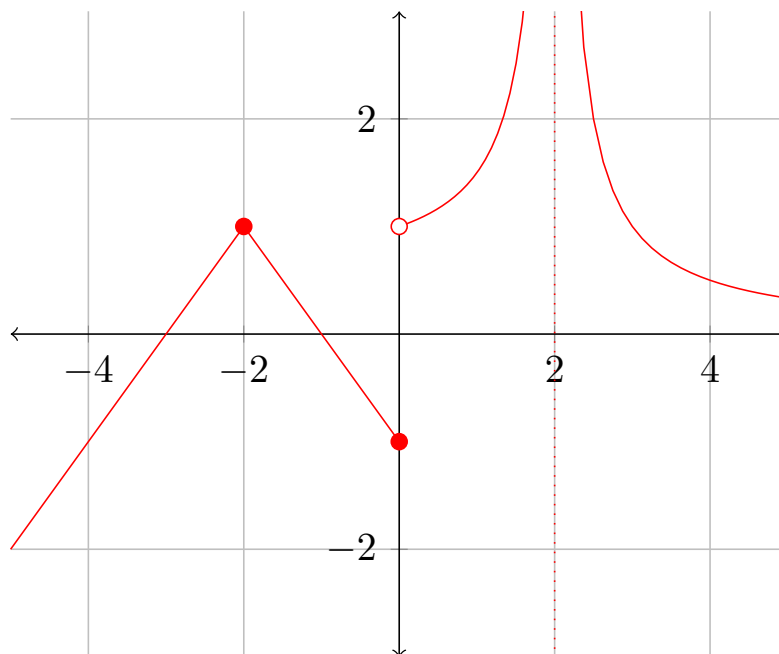> Please show **all** your work! Answers without supporting work will not be given credit.
> Write answers in spaces provided.

Name:_____

1. [**10 points**] Consider the following function, $f(x)$, defined by its graph:

Find the following limits:

(a) $\lim\limits_{x \to 2^-} f(x) = \boxed{+\infty}$

(b) $\lim\limits_{x \to 2^+} f(x) = \boxed{+\infty}$

(c) $\lim\limits_{x \to 2} f(x) = \boxed{+\infty}$

(d) $f(2) = \boxed{\text{undefined}}$

(e) $\lim\limits_{x \to 0^-} f(x) = \boxed{-1}$

(f) $\lim\limits_{x \to 0^+} f(x) = \boxed{1}$

(g) $\lim\limits_{x \to 0} f(x) = \boxed{DNE}$

(h) $f(0) = \boxed{-1}$

(i) $\lim\limits_{x \to -2} f(x) = \boxed{1}$

(j) $f(-2) = \boxed{1}$

2. [**2 pts**] Find each x where the graph is discontinuous. Then classify each one.

> **Solution:** From the graph, we can see that there are discontinuities at $x = 0$ and $x = 2$.
>
> $x = 0$ is a Jump, and $x = 2$ is a Vertical Asymptote.