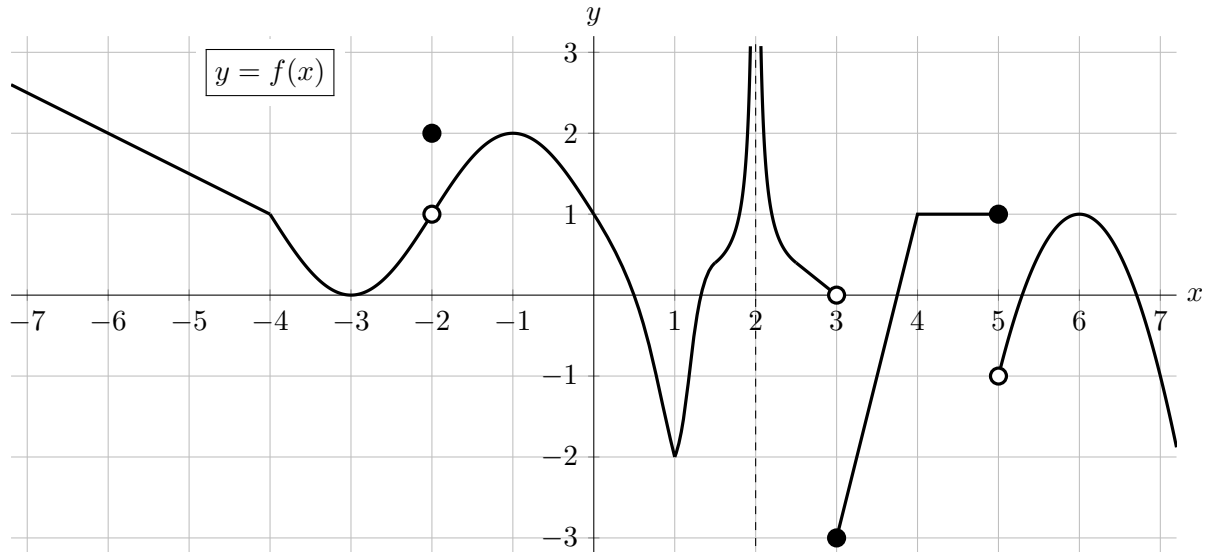**4.** [12 points] A portion of the graph of a function f is shown below. Note that $f(x)$ has a vertical asymptote at $x = 2$.

Throughout this problem, you do not need to show work or explain your reasoning.

For parts **a.** and **b.** below, circle **all** of the listed values satisfying the given statement. If there are no such values listed, circle NONE.

a. [2 points] For which of the following values of a is $f(x)$ continuous at $x = a$?

$\boxed{a = -3}$ $a = -2$ $\boxed{a = 1}$ $a = 3$ NONE

b. [2 points] For which of the following values of b is $\lim\limits_{x \to b^+} f(x) = f(b)$?

$\boxed{b = -4}$ $b = -2$ $\boxed{b = 0}$ $\boxed{b = 3}$ NONE

In the following parts, evaluate each of the given quantities. If the value does not represent a real number (including the case of limits that diverge to ∞ or $-\infty$), write "DNE" or "does not exist."

c. [2 points] $\lim\limits_{x \to -2} f(x)$

Answer: 1

d. [2 points] $\lim\limits_{x \to 5} f(x)$

Answer: **DNE**

e. [2 points] $\lim\limits_{x \to 2} e^{-f(x)}$

Answer: 0

f. [2 points] $\lim\limits_{h \to 0} \dfrac{f(-6 + h) - f(-6)}{h}$

Answer: $-\dfrac{1}{2}$