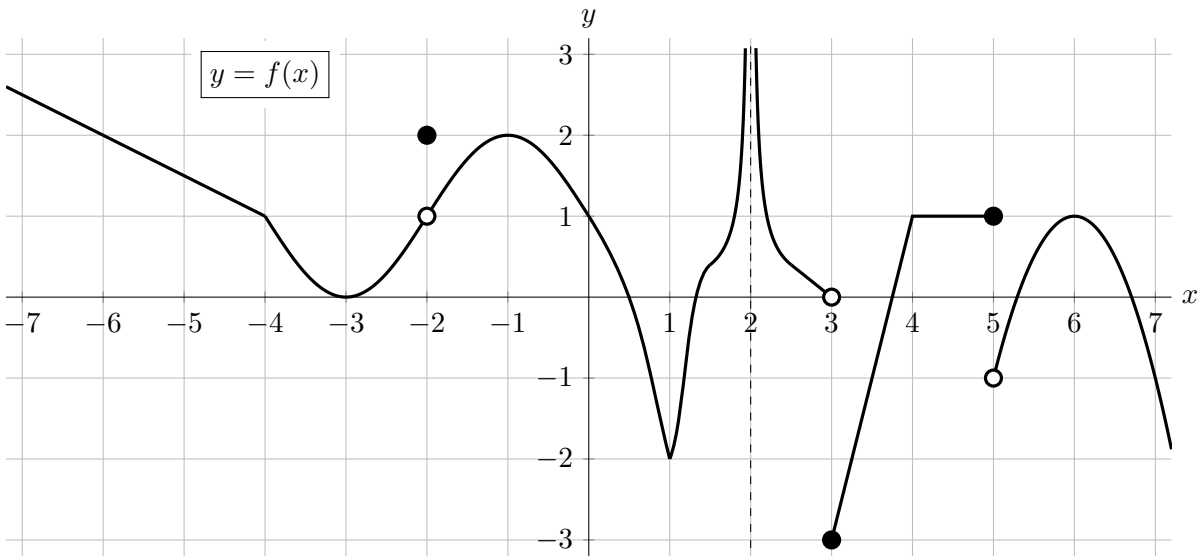
4. [12 points] A portion of the graph of a function f is shown below. Note that $f(x)$ has a vertical asymptote at $x = 2$.



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

For parts **a.** and **b.** below, circle **<u>all</u>** 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 $x = a$?

$a = -3$ $a = -2$ $a = 1$ $a = 3$ NONE

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

$b = -4$ $b = -2$ $b = 0$ $b = 3$ 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] $\lim_{x \to -2} f(x)$

Answer: _____

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

Answer: _____

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

Answer: _____

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

Answer: _____