6. [11 points] Below is a portion of the graph of an even function $f(x)$, which has domain $(-\infty, \infty)$ even though the graph below only shows the function on the interval $[0,5]$. Note that $f(x)$ has a vertical asymptote at $x=1$.

![Graph of an even function](image)

a. [1 point] At which of the following values of $x$ is $f(x)$ continuous? Circle all correct answers.

- $x = 1$
- $x = 2$
- $x = 3$  
- $x = 4$
- NONE OF THESE

b. [8 points] Find the exact numerical value of each expression below, if possible. For any values that do not exist, including if they are limits that diverge to $\pm\infty$, write DNE. If there is not enough information to find a given value or determine whether it exists, write NEI. You do not need to show work. As a reminder, $f(x)$ is an even function.

- $f(f(3)) = -2$
- $\lim_{x \to 0^-} f(x) = 1$
- $\lim_{x \to 2} f(x) = \text{DNE}$
- $\lim_{x \to 6^+} \frac{f(x-2)}{f\left(\frac{x}{2}\right)} = -1$
- $\lim_{x \to 3} f(x) = 0$
- $\lim_{x \to 2^-} f(-x) = 4$
- $\lim_{x \to 1^-} \frac{1}{f(x)} = 0$
- $\lim_{h \to 0} \frac{f(1.5 + h) - f(1.5)}{h} = 4$

c. [2 points] Consider the function $G(x) = -f(x + 3)$. Which of the following must be a vertical asymptote of $G(x)$? There is only one correct answer.

- $x = -3$
- $x = -2$  
- $x = -1$
- $x = 1$
- $x = 4$