2. [12 points] Parts a. and b. of this problem are unrelated to each other.

a. [6 points] The graph of \( y = f(x) \), defined on \([-2, 3]\) is given below.

For each of the following two graphs, write a formula involving \( f \) that could give the graph.

This is the graph of \( y = \underline{} \).

This is the graph of \( y = \underline{} \).

b. [6 points] If a function \( f(x) \) has domain \([0, 3)\), range \([-1, \infty)\), and a vertical asymptote at \( x = 3 \), find the domain, range and vertical asymptote of the function

\[
g(x) = \frac{1}{3}f(-x + 1) - 2.
\]

(i) The domain of \( g(x) \) is \( \underline{} \).

(ii) The range of \( g(x) \) is \( \underline{} \).

(iii) The vertical asymptote of \( g(x) \) is \( \underline{} \).