5. [6 points] Consider the following graph of a function $A(z)$. Assume the behavior of $A(z)$ depicted on the left and right of the graph continues as $z$ approaches $-\infty$ and $\infty$, respectively.

![Graph of A(z)](image)

a. [3 points] Write down equations for all vertical and horizontal asymptotes of $A(z)$.

The vertical asymptote(s) of $A(z)$ are $z = -3$, $z = 1$

The horizontal asymptote(s) of $A(z)$ are $w = -0.5$

b. [3 points] Calculate the following limits.

(i) $\lim_{z \to -3^+} A(z) = +\infty$

(iii) $\lim_{z \to 3^+} A(-z) = -\infty$

(iv) $\lim_{z \to -\infty} 3A(z/2) = -1.5$