1. [12 points] The graphs of two functions, \( h(p) \) and \( v(p) \), are shown below.

The following questions concern the functions \( B, W, \) and \( Q \) defined as follows:

\[
B(p) = \frac{h(2p)}{h(4p)}, \quad W(p) = h(h(p)), \quad \text{and} \quad Q(p) = e^{-v(p)}.
\]

Assume that the first and second derivatives of \( v(p) \) are defined everywhere, i.e. that both \( v \) and \( v' \) are differentiable on \((-\infty, \infty)\). Note that the graph of \( h(p) \) consists of line segments whose endpoints have integer (whole number) coordinates. Find the exact value of each of the quantities in a. and b. below. If the value does not exist, write DOES NOT EXIST.

Remember to show your work carefully.

a. [4 points] \( B'(-1) \)

Answer: \( B'(-1) = \) __________

b. [4 points] \( W'(2) \)

Answer: \( W'(2) = \) __________

c. [4 points] On the interval \(-2 < p < 2\), is \( Q(p) \) always increasing, always decreasing, or neither? Show your work and explain your reasoning.