6. [10 points] Consider the functions \( f(x), h(x) \) and \( q(x) \)

\[
\begin{array}{c|ccccccc}
 x & -3 & -2 & -1 & 0 & 1 & 2 & 3 \\
 q(x) & 15 & 10 & 5 & 10 & 15 & 10 & 5 \\
\end{array}
\]

\[ h(x) = \frac{-x}{1 + x^2}. \]

a. [2 points] Suppose that one of the functions above is a periodic function whose period is an integer less than six. Find the periodic function and determine its period.

The function \( \underline{\text{none}} \) is periodic with period \( \underline{\text{none}} \).

b. [2 points] Which of the functions above are odd? Circle all that apply.

\( q(x) \) \( h(x) \) \( f(x) \) \( \underline{\text{none}} \)

c. [2 points] Which of the functions above are even? Circle all that apply.

\( q(x) \) \( h(x) \) \( f(x) \) \( \underline{\text{none}} \)

d. [4 points] Consider an even function \( y = p(x) \) that has range \([-2, 2]\) and the function \( g(x) = 5p(-2x) + 1 \).

i) What is the range of \( g(x) \)? Write your answer using inequalities or interval notation.

\[ \text{Range of } g(x): \underline{\text{none}} \]

ii) Is \( g(x) \) even, odd or neither? Circle your answer.

\( \underline{\text{even}} \) \( \underline{\text{odd}} \) \( \underline{\text{neither}} \)