**Problem 1.** Consider the piecewise-defined function

\[
f(x) = \begin{cases} 
4x^2 - 2 & x \leq 0 \\
-2 + 2x & x > 0 
\end{cases}
\]

Sketch a graph of this function. Is it invertible? Why or why not?

**Problem 2.** Give an example (with proof!) of an even function, an odd function, and a function that is neither. The proof should be in words, not graphs!