

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!