[10-09-01A-T11]

Homework assignment

Please do this assignment instead of the one I handed out at the start of class.

Today in class we considered the function $f(x) = x^n,\ x \in \mathbb{R},\ n = 1,\ 2,\ 3,\ \ldots$.

We were confident that for $x < 0$ and n even, f is a decreasing function. We were similarly confident that for $x < 0$ and n odd, f is an increasing function.

I put up a flawed proof that for $x < 0$ and n even, f is a decreasing function. We knew my proof had a mistake somewhere.

Your assignment is to figure out where my mistake occurred, correct it and complete the proof. Tomorrow we will discuss your thoughts on how I erred.

Please do not spend longer on this assignment than the recommended homework time from the syllabus.