Math 120 Homework 9: Common student errors

• Problem 3: Assuming \( f \) is a polynomial and showing that its degree is less than or equal to \( n - 1 \).

• Problem 3: Trying to give an inductive argument by invoking the fact that if \( f' \) is a polynomial of degree at most \( k \), then \( f \) is a polynomial of degree at most \( k + 1 \) through integrating.

• Problem 6c: setting \( x = y \) in part 6b to conclude that there exists an \( n \) such that \( |y^n/n!| < \epsilon \). Since we want an \( n \) that works for all \( y \) in \([-x, x]\), we should use part 6b to conclude that there is an \( n \) such that \( |x^n/n!| < \epsilon \), and \( |y^n/n!| < |x^n/n!| \) since \( |y| < |x| \) for all \( y \) in \([-x, x]\).