Fall 2026, Math 296: Week 5 Preliminary Problems
Due: Thursday, September 24th, 2026
Induction

Preliminary problems. These problems should be completed before discussion on Thursday.

(P1) Fill in the blanks in the following to make it a valid proof structure.

To prove a statement $p(n)$ holds for all positive even integer values of n, prove:

(a) $p($____$)$ holds; and

(b) for all even $n \in \mathbb{Z}$ with $n \geq$ ____, the implication $p(n) \Rightarrow p($____$)$ holds.

(P2) Using Problem (P1) as a guide, specify a proof structure that proves a statement $p(n)$ holds for all positive odd integer values of n.