

Fall 2026, Math 296: Week 1 Preliminary Problems
Due: Thursday, August 27th, 2026
Mathematical Exploration: Divisibility of Natural Numbers

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

(P1) An integer a is *even* if $2 \mid a$. Write an equivalent mathematical definition of “ a is even” that does not rely on divisibility (use the definition of divisibility as a guide).

(P2) Consider the following improperly written definition.

“A *root* is when a you plug a number into a polynomial and get 0.”

Using the above as a guide, and the definitions from class as models, write a proper mathematical definition for the term *root*.