

**Math 406 – Fall 2025 – Harry Tamvakis**  
**PROBLEM SET 10 – Due December 4, 2025**

Reading for this assignment: Sections 11 and 12.

**Problems**

From the textbook: Section 11, #2, 4, 6, 8, 10, 11, 12, 16, 18. Section 12, #2, 5, 6.

**Extra Credit Problem.**

**EC)** The integers  $a, b, c, d, e$ , and  $f$  satisfy the equation

$$a^2 + b^2 + c^2 + d^2 + e^2 = f^2.$$

Prove that at least two of the numbers  $a, b, c, d, e, f$  must be even.