

MATH 2010 SPRING 2026 HOMEWORK #1

Write clearly. Both questions carry equal weight.

For each proposition, write a formal proof.

- (1) Consider integers m and n . If $5m - 3n + 7$ is even, then m and n have opposite parity.

- (2) For $x \in \mathbb{R}$, if $2x^{11} > 11x^4 - 5x^7$, then x is positive.