MATH 201 SPRING 2023 GRADED HOMEWORK #1

Write clearly. Both questions carry equal weight.

For each proposition, write a formal proof.

(1) For real x with $0 < x < 6$, the inequality $\dfrac{9}{x(6-x)} \geq 1$ holds.

(2) Consider integers m and n. For $m^2 + mn + n^2$ to be odd, it is sufficient that the two integers have opposite parity.