

Math 1190 Quiz #10

Problem 1: Consider any three consecutive, positive integers. Show that the cube of the largest cannot be the sum of the cubes of the other two.

Problem 2: Find, with explanation, the maximum value of $f(x) = x^3 - 3x$ on the set of all real numbers x satisfying $x^4 + 36 \leq 13x^2$.

Problem 3: Evaluate $\int_0^{\pi/2} \frac{dx}{1 + \tan^{\sqrt{2}}(x)}$.

Problem 1: Consider any three consecutive, positive integers. Show that the cube of the largest cannot be the sum of the cubes of the other two.

Problem 2: Find, with explanation, the maximum value of $f(x) = x^3 - 3x$ on the set of all real numbers x satisfying $x^4 + 36 \leq 13x^2$.

Problem 3: Evaluate $\int_0^{\pi/2} \frac{dx}{1 + \tan^{\sqrt{2}}(x)}$.