Abstract

Let $f_1, \ldots, f_r$ be polynomials in $n$ variables. We consider the following two questions:

1. Which continuous functions $\phi$ can be written in the form $\phi = \sum \phi_i f_i$ where the $\phi_i$ are continuous functions?

2. Which polynomials $g$ can be written in the form $g = \sum \phi_i f_i$ where the $\phi_i$ are continuous functions?

(As a warm-up exercise, write $x^2y^2 = \phi_1 x^3 + \phi_2 y^3$ where the $\phi_i$ are continuous functions.)

After reviewing earlier work on similar questions, I plan to outline two answers to these problems. (Joint work with Charles Fefferman)

Refreshments will be served in the Math Library Lounge at 4:00 p.m.