MATEMATISKA INSTITUTIONEN
STOCKHOLMS UNIVERSITET
Avd. Matematik

SJÄLVSTÄNDIGT ARBETE I MATEMATIK

Onsdagen den 17 juni kl. 9:30-10:30 presenterar Saad Abed sitt arbete "Gamma function related to Pick functions" (30 högskolepoäng, avancerad nivå).

Handledare: Annemarie Luger

Plats: Sal 32, hus 5, Kräftriket

Sammanfattning: This thesis is divided into two parts. In the first part we will study some properties of the Gamma function, $\Gamma(z)$, which can be viewed as an extension of the factorial function $(n + 1) \mapsto n!$ to a subset of the complex plane (more precisely to $\mathbb{C} \setminus \mathbb{Z}_{\leq 0}$). The Gamma function has several representations and we will represent some of them.

The second part of this thesis is about Pick functions and mainly follows the paper *Pick Functions Related to the Gamma Function* by C. Berg and H.L. Pedersen (see [BP]). Pick functions are holomorphic functions from the open upper complex half plane to the closed upper complex half plane. We will prove that a special class of maps are Pick functions. We end up with proving that $\frac{\text{Log}(\Gamma(z+1))}{z}$ is a Pick function which connects the two subjects of my thesis.

Alla intresserade är välkomna!