

MATEMATISKA INSTITUTIONEN
STOCKHOLMS UNIVERSITET
Avd. Matematik

SJÄLVSTÄNDIGT ARBETE I MATEMATIK

Onsdagen den 18 november kl. 10:00-11:00 presenterar Christian Hägg sitt arbete “Sequential differentiation of polynomials with zeros determined by simple polygons” (15 högskolepoäng, grundnivå).

Handledare: Rikard Bøgvad

Plats: Sal 32, hus 5, Kräftriket

Sammanfattning: Consider a complex polynomial P with simple zeros in lattice points contained in a simple polygon S . We numerically investigate how the zeros of P , P' , P'' , ... change, and notice that they converge on trees. By instead considering a polynomial p with zeros of multiplicity n in the vertices of S , we see that the zeros of the n :th derivative of p reside in more refined trees or forests. These organic shapes seem to, given light restrictions, be contained in unique, simple polygons on the vertices of S .

Alla intresserade är välkomna!