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Methoden und Probleme der diskreten Mathematik

Wintersemester 2014/2015

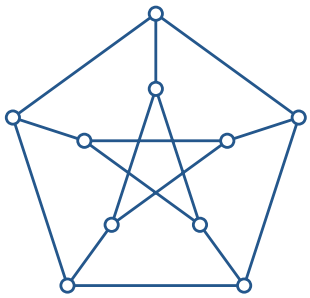
— Aufgabenblatt 1 —

Aufgabe 1.1 Bestimmen Sie extremale n-Schnittfamilien $\mathcal{F} \subseteq 2^{[n]}$.

Aufgabe 1.2 Bestimmen Sie alle extremalen (n, k)-Schnittfamilien $\mathcal{F} \subseteq 2^{[n]}$ für $n = 2k$.

Aufgabe 1.3 Bestimmen Sie alle extremalen (n, k)-Schnittfamilien $\mathcal{F} \subseteq 2^{[n]}$ für $n > 2k$.

Aufgabe 1.4 Bestimmen Sie die Eigenwerte der Adjazenzmatrix des Petersengraphen.



— Zitate —

From Peter Cameron's blog: One of the most famous quotes about mathematicians,

> A mathematician is a machine for turning coffee into theorems

which was probably due to the Hungarian mathematician Alfréd Rényi, seems to have become attached to Rényi's compatriot, collaborator and friend Paul Erdős. Many mathematicians and biographers seem to think that it was Erdős who said it. But an iconic quote like this is always likely to have multiple attributions.
A third Hungarian, Paul Turán, is said to have added the corollary, "Weak coffee is suitable only for lemmas".

Paul Erdős