THE UNIVERSITY OF NEWCASTLE

PAGE

Dear Ron

Just preached here, on sunday I return to Sydney - got quite a lot of letters from Bell labs and spoke to Szekeres on the phone - I have some more letters. It seems ~~t~~ certain that I will be both at the Sydney number theory meeting and also at LA (if ...) I hope our paper is making progress.

Let $l_c^{(m)}$ be the smallest integer so that for every $l > l_c^{(m)}$ $\cancel{V\left(\prod_{i=1}^{l_c^{(m)}}(m+i)\right) < c}$ $V\left(\prod_{i=1}^{l}(m+i)\right) < c\,l$ where $V(m)$ denotes the number of distinct prime factors of m. It seems very hard to estimate $l_c^{(m)}$ from above and below even for $c=1$.

Have you heard about Yeshiva? it seems that the administration wants to close Belfer graduate school! fascism, stalinism, americanism! I hope they will fail.

I enclose some old letters, they are on number theory but my main reason for sending them is to begin collecting my letters in one place - you know we old people lear

Kind regards to all

E. P.

Hi! Best wishes
Roger Eggleton.

TELEFON: 183—875 TELEGRAPHIC ADDRESS: MATEMATIKA, BUDAPEST

Dear Ron,

I arrived to Athens on sunday, preached on combinatorics monday evening, mentioned Wong's conjecture on 2^n edges. The day before yesterday I was in the Peloponnesus with Negropontis - it was sunny and 60. I arrived here yesterday - it was over 75. The math building in Haifa burned down on friday "burned down" is a bit exaggerated but there is some damage even to the library (due to some failure in the electrical system). I will arrive to Haifa later this morning, Schönheim will drive me there.

The prize in Israel where I am considered is the Wolf prize (I saw their letter to the math inst asking for information - the Dutch academy (de Bruijn + van Lint no doubt) nominated me. It will be decided in a few weeks.

Schönheim + Milner conjectured that a graph of $2n$ vertices ~~every vertex of which~~ for which there is a vertex x_1 so that for every i, $2 \le i \le n$ there is a Hamiltonian path starting at x_1 and ending at x_i has at least $3n-1$ edges - if true this is best possible.*

I expect to arrive to samland on sunday March 25 in the afternoon (perhaps already on March 24) on March 26 in the afternoon I go to Carbondale - are you free that weekend? Please write about this as soon as possible.

Mrs Turán would need the 6 volumes of Leveque rather urgently - I understand members of the Society can get it at a reasonable price - about 50 dollars - If this is true please order it my name and have it sent air mail to her adress irectly.

Several people here (Schönheim, Lewin etc) will want to see our giant paper, please send me by air mail 2 or 3 copies as soon as possible.

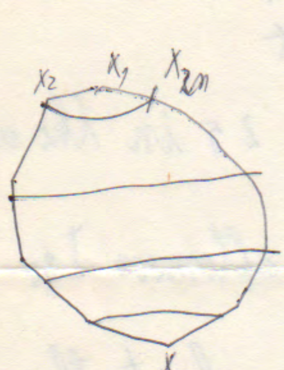
Kind regards to all, au revoir

E. P.

How does our triple paper with Mrs Chung progress?

Kind regards
J. Schönheim

*



here is the graph
x_1 and x_{n+1} have degree 2
all others degree 3

THE UNIVERSITY OF CALGARY

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2500 University Drive N.W., Calgary, Alberta, Canada T2N 1N4

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Dear Ron (1984 I 5)

Just had a letter from Bruce from Hungary, Hajnal brought it but the fascist forgot it for a few days. I will meet Bruce in Israel.

Let G have chromatic number n and suppose that its smallest k chromatic subgraph has $f(k)$ vertices — can one give a reasonable upper and lower estimation for the smallest possible number of vertices of G? If $k=3$ then the number is perhaps between $\cancel{c_1}$ $n^{c_1 f(k)}$ and $n^{c_2 f(k)}$.

Regards to Fan, au revoir

E. P.

I enclose two papers.

UNIVERSITY OF FLORIDA

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(904)-392-0281

1992 II 14

Dear Ron,

Please send 500 dollars to Peter Szanto 59 Finch Avenue West, North York Ontario M2N 2H3 Canada.

I think I finally proved that if $g(k)$ is the smallest integer for which all prime factors of $\binom{g(k)}{k}$ are $> k$ then $g(k) > k^{2-\varepsilon}$. No doubt 28 is the largest integer for which $g(k) < k^2$ (all prime factors of $\binom{284}{28}$ are ≥ 29), but this I can not prove. Also no doubt $g(k) > k^n$ for every n if $k > k_0(n)$.

Kind regards

E.P.

MAGYAR TUDOMÁNYOS AKADÉMIA
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173-151

1991 VII 27

Dear Ron,

Please send a cheque of 200 US dollars to Péter Szalontó
59 Finch Avenue West North York Ontario M2N 2H3
(Canada (Tel 416 221 1522)
It is a gift from his father in law.

Let there be given n points in the plane what is the maximum number of distinct lines which contain at least four of our points? Denote this maximum by $g(n)$
$\lim g(n)/n^2 = ?$. Is it true that if $g(n) > c\,n^2$ then there must be a line which contains "many" of the points. Many could mean $\varepsilon n^{1/2}$ or $n^{1/2-\varepsilon}$ or n^{ε} or only that it tends to infinity. An ancient conjecture of mine states that if $g(n) > c\,n^2$ there must be 5 points on a line.

A very old problem of Sárközy Szemerédi and myself states:

Let $|S| = n$, $B_i \subset S$, $C_j \subset S$, $1 \le i \le x$; $1 \le j \le y$.
$\cancel{B_i \cap B_u}$ $B_i \cap B_{i'} \geq 2$, $C_j \cap C_{j'} \geq 2$, $B_i \cap C_j \geq 1$. Is it then true that

$$x + y \le 2^{n-1} - c\,2^n/n$$

(if true many generalisations should be possible)

Kind regards to you & Fan

E. P.

next month I expect to be in Samland.

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88896 Fnyv 11. — R 222