

(6) Use $n = mq + 1 = \frac{mp - 1}{m - 1}$; use m = 2

Det a, b & v(G₁) (1) v(G₂) = a - v path P₁ in G₁

Let P₁: a = x₀ x₁ - - x_k = v. Let i he the smallest path

if x₁ ∈ G₂. Then i > 1 Let Q be the x₁ - b path in G₂.

Then x₀ x₁ - - x₁ = Q is an a-b path in G (m x₁) can occur in Q for j < j

no element x Ea can be a generator

 $f: G \to HYK, \quad f(0) = (0,0), \quad f(1) = (1,1) \\ f(2) = (2,0); \quad f(3) = (0,1) \\ f(4) = (1,0); \quad f(7) = (2,1)$

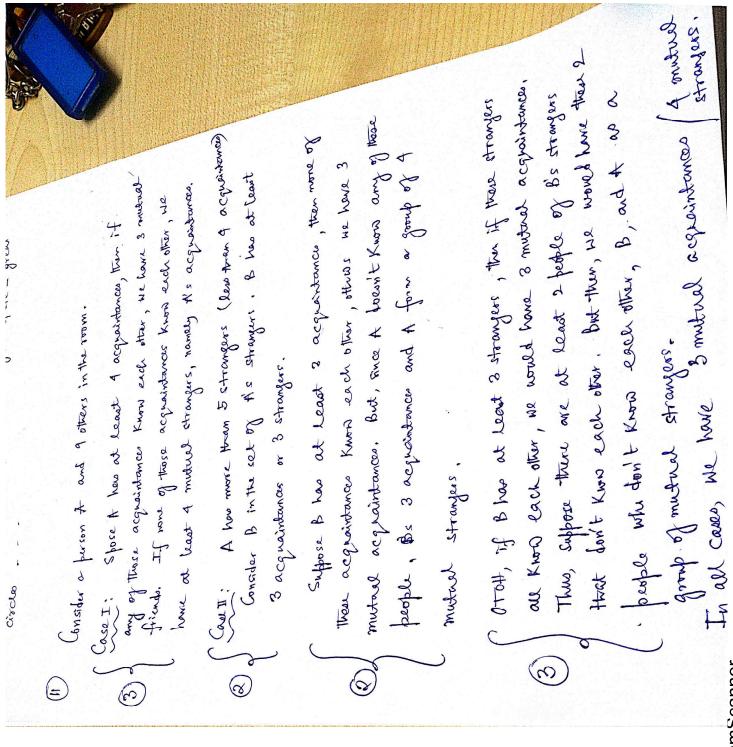
no two elements of G have the same image in HYK under $f \Rightarrow f$ is 1-1. |G| = |HYK| = |f| f is onto

f(a+b) = f(a) + f(b) fay check

— of homom

R - # of spanning trees of Kn containing the edge e. nn-2 spanning trees in total, each of which contains (n-1) etges M(n-1) edges in Kn. Each of these edges is contained in K different spanning trees. Consider the disjoint union of all spanning trees of Kn. We have 2 ways to count all the edges.

By ①: $(n-1)n^{n-2}$ By ②: Kn(n-1)/2 $\Rightarrow K = 2n^{n-3}$ nn-2 = 2nn-3 spanning trees of Kn which don't contain e or



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