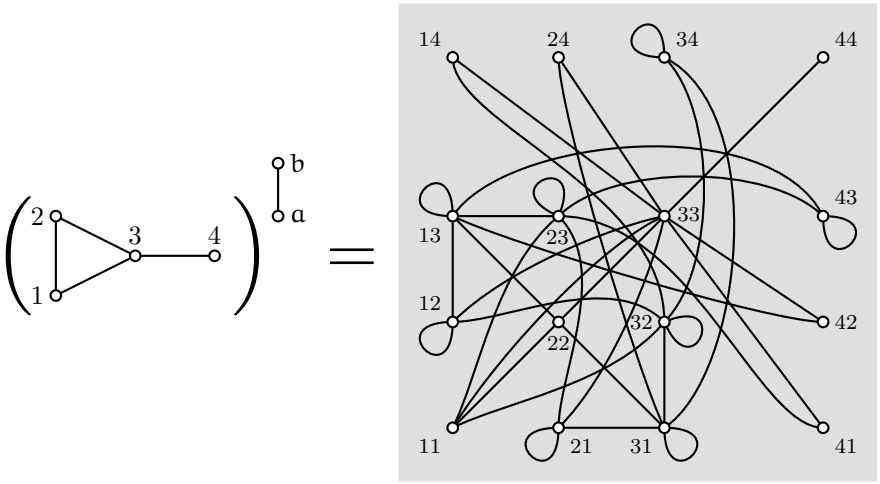
VCU Discrete Mathematics Seminar

About graph exponentiation

Prof Richard Hammack
VCU!

Wednesday, Sept. 25
1:00-1:50
4145 Harris Hall



An exponential graph G^{K_2}. A vertex labeled uv represents the function $f : V(K_2) \to V(G)$ for which $f(a) = u$ and $f(b) = v$.

Given two graphs G and H, the **exponential graph** G^H is the graph whose vertices are the functions $f : V(H) \to V(G)$, and where two functions f and g are adjacent if $f(x)g(y) \in E(G)$ for every $xy \in E(H)$. The algebraic properties of graph exponentiation are almost identical to the properties of exponents for real numbers.

Almost. Where the analogy breaks down is where things get interesting. I will introduce the definitions with lots of pictures, and we will quickly progress to some open questions.

For the DM seminar schedule, see:

`http://www.people.vcu.edu/~dcranston/DM-seminar/`