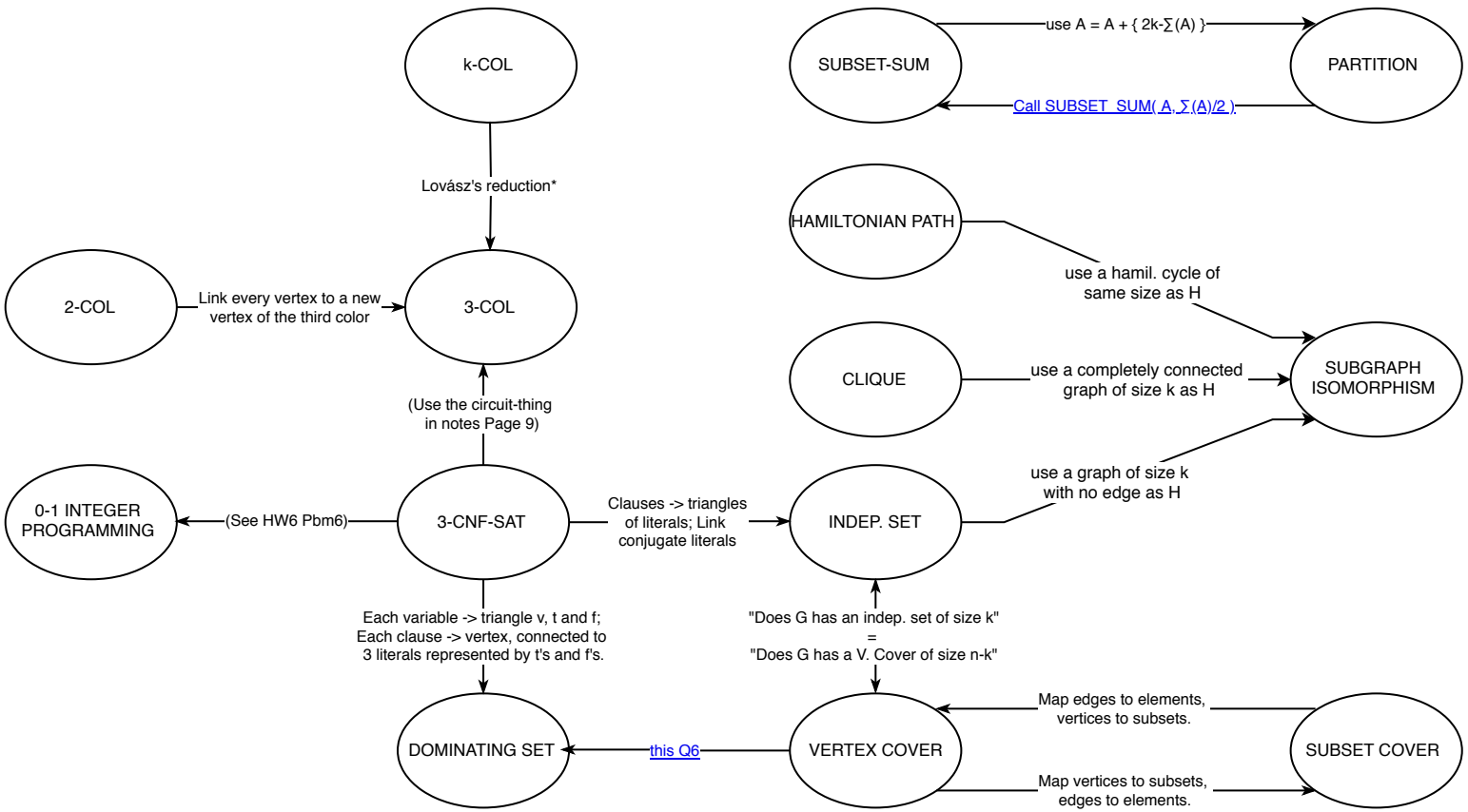
k-COL
Lovász's reduction*
2-COL
Link every vertex to a new vertex of the third color
3-COL
(Use the circuit-thing in notes Page 9)
0-1 INTEGER PROGRAMMING
(See HW6 Pbm6)
3-CNF-SAT
Clauses -> triangles of literals; Link conjugate literals
INDEP. SET
Each variable -> triangle v, t and f; Each clause -> vertex, connected to 3 literals represented by t's and f's.
"Does G has an indep. set of size k" = "Does G has a V. Cover of size n-k"
DOMINATING SET
this Q6
VERTEX COVER
Map edges to elements, vertices to subsets.
Map vertices to subsets, edges to elements.
SUBSET COVER
SUBSET-SUM
use A = A + { 2k-∑(A) }
PARTITION
Call SUBSET_SUM(A, ∑(A)/2)
HAMILTONIAN PATH
use a hamil. cycle of same size as H
CLIQUE
use a completely connected graph of size k as H
SUBGRAPH ISOMORPHISM
use a graph of size k with no edge as H