

WPI

PERNER LABELING AS A GRAPH-COLORING PROBLEM

QUESTIONS / PROBLEMS:

1. FIND S-LABELINGS THAT YIELD
A MAXIMUM NO. OF FULL CELLS.

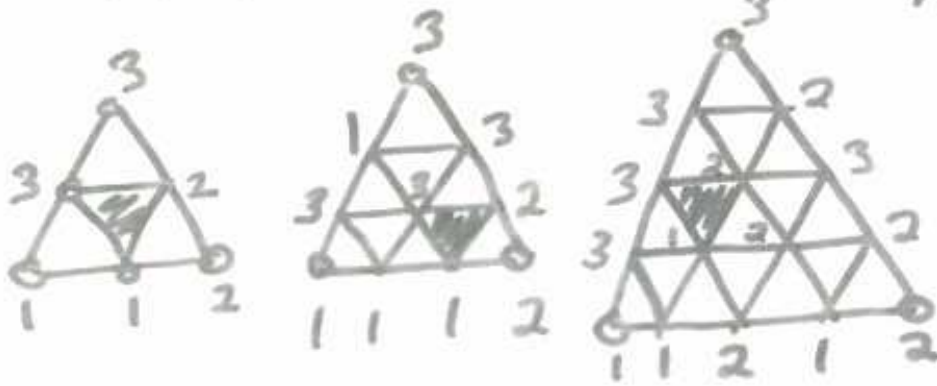
2. FIND S-LABELINGS THAT YIELD
A UNIQUE FULL CELL

3. DOES \exists AN S-LABELING THAT
AVOIDS MONOCHROMATIC \triangle ?

CONSIDER FOR
REGULAR TRIANGULATIONS
" GENERAL
S-LABELED POLYTOPES

EXAMPLES :

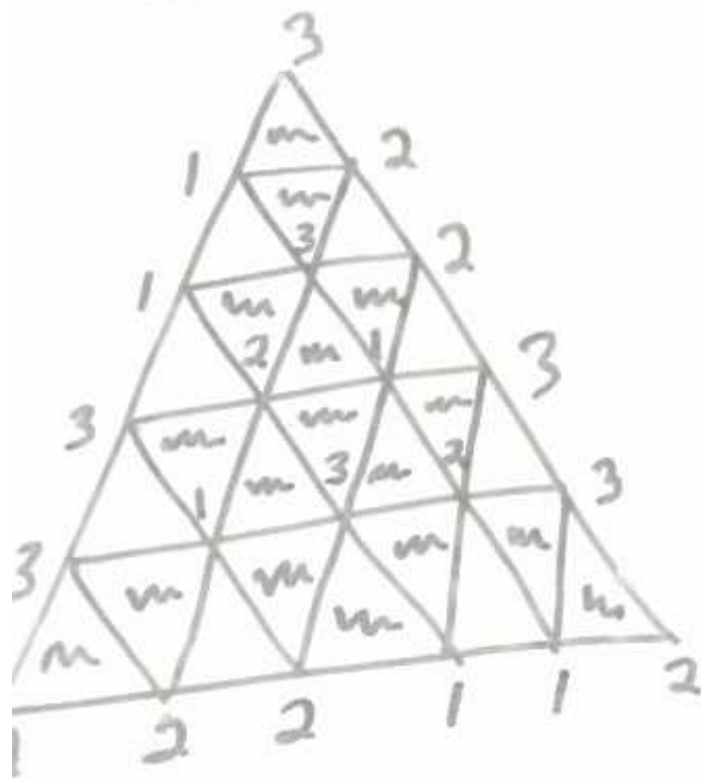
UNIQUE FULL CELL AND NO MONOCHROM TRIANGLES



MAXIMUM NO. OF FULL SETS

$$m = \max \triangle S$$

$m = \max. \text{ no. of full cells}$



m	m
1	1
4	1
9	$5 = 2^2 + 1$
16	9
25	$17 = 4^2 + 1$
36	21