

New Graph

[2, 3, 1, 2], [4, 4, 4, 3]

$$\pi = [3, 5, 6, 7]$$

POSSIBLE RANKS

1 x 21
3 x 7

BASE DETERMINANT 17/64, .2656250000

NullSpace of Δ

{1, 2, 3, 4}

Nullspace of A

$$\det(A) = -1/8$$

1 . Coloring, {}

R: [2, 3, 1, 2]

B: [4, 4, 4, 3]

‘ See graph

‘ ‘ See pair graph

‘

Δ -Rank	$A+(1/2)\Delta$	$A-(1/2)\Delta$	R	B
3 vs 3	4 vs 4	4 vs 4	3 vs 3	2 vs 2

Omega Rank for R : cycles: {{1, 2, 3}} order: 3

See Matrix

\$ [[6, 10, 5, 0], [5, 6, 10, 0], [10, 5, 6, 0]] \$

$$[y_3, y_1, y_2, 0]$$

Omega Rank for B : cycles: $\{\{3, 4\}\}$ order: 2

See Matrix

$$\$ [[0, 0, 7, 14] , [0, 0, 14, 7]] \$$$

$$[0, 0, y_2, y_1]$$

2 . Coloring, $\{2\}$

R: [2, 4, 1, 2]

B: [4, 3, 4, 3]

‘ See graph

‘ ‘ See pair graph

‘

Δ -Rank	$A+(1/2)\Delta$	$A-(1/2)\Delta$	R	B
3 vs 3	3 vs 4	4 vs 4	3 vs 3	2 vs 2

Omega Rank for R : cycles: $\{\{2, 4\}\}$ order: 2

See Matrix

$$\$ [[6, 10, 0, 5] , [0, 11, 0, 10] , [0, 10, 0, 11]] \$$$

$$[y_1, y_2, 0, y_3]$$

Omega Rank for B : cycles: $\{\{3, 4\}\}$ order: 2

See Matrix

$$\$ [[0, 0, 12, 9] , [0, 0, 9, 12]] \$$$

$$[0, 0, y_1, y_2]$$

3 . Coloring, $\{3\}$

R: [2, 3, 4, 2]

B: [4, 4, 1, 3]

‘ See graph

‘ ‘ See pair graph

‘

Δ -Rank	$A+(1/2)\Delta$	$A-(1/2)\Delta$	R	B
3 vs 3	4 vs 4	4 vs 4	3 vs 3	3 vs 3

Omega Rank for R : cycles: $\{\{2, 3, 4\}\}$ order: 3

See Matrix

$$\$ [[0, 10, 5, 6], [0, 6, 10, 5], [0, 5, 6, 10]] \$$$

$$[0, y_1, y_2, y_3]$$

Omega Rank for B : cycles: $\{\{1, 3, 4\}\}$ order: 3

See Matrix

$$\$ [[6, 0, 7, 8], [7, 0, 8, 6], [8, 0, 6, 7]] \$$$

$$[y_1, 0, y_2, y_3]$$

4 . Coloring, $\{4\}$

R: [2, 3, 1, 3]

B: [4, 4, 4, 2]

‘ See graph

‘ ‘ See pair graph

‘

Δ -Rank	$A+(1/2)\Delta$	$A-(1/2)\Delta$	R	B
3 vs 3	4 vs 4	4 vs 4	3 vs 3	2 vs 2

Omega Rank for R : cycles: $\{\{1, 2, 3\}\}$ order: 3

See Matrix

$$\$ [[6, 3, 12, 0], [12, 6, 3, 0], [3, 12, 6, 0]] \$$$

$$[y_3, y_1, y_2, 0]$$

Omega Rank for B : cycles: $\{\{2, 4\}\}$ order: 2

See Matrix

$$\$ [[0, 7, 0, 14] , [0, 14, 0, 7]] \$$$

$$[0, y_1, 0, y_2]$$

5 . Coloring, $\{2, 3\}$

R: [2, 4, 4, 2]

B: [4, 3, 1, 3]

‘ See graph

‘ ‘ See pair graph

‘

Δ -Rank	$A+(1/2)\Delta$	$A-(1/2)\Delta$	R	B
3 vs 3	4 vs 4	4 vs 4	2 vs 2	3 vs 3

Omega Rank for R : cycles: $\{\{2, 4\}\}$ order: 2

See Matrix

$$\$ [[0, 10, 0, 11] , [0, 11, 0, 10]] \$$$

$$[0, y_1, 0, y_2]$$

Omega Rank for B : cycles: $\{\{1, 3, 4\}\}$ order: 3

See Matrix

$$\$ [[6, 0, 12, 3] , [12, 0, 3, 6] , [3, 0, 6, 12]] \$$$

$$[y_1, 0, y_2, y_3]$$

6 . Coloring, $\{2, 4\}$

R: [2, 4, 1, 3]

B: [4, 3, 4, 2]

‘ See graph

‘ ‘ See pair graph

‘

Δ -Rank	$A+(1/2)\Delta$	$A-(1/2)\Delta$	R	B
3 vs 3	3 vs 4	4 vs 4	4 vs 4	3 vs 3

Omega Rank for R : cycles: $\{\{1, 2, 3, 4\}\}$ order: 4

See Matrix

$$\$ [[6, 3, 7, 5], [7, 6, 5, 3], [5, 7, 3, 6], [3, 5, 6, 7]] \$$$

$$[y_2, y_1, y_3, y_4]$$

Omega Rank for B : cycles: $\{\{2, 3, 4\}\}$ order: 3

See Matrix

$$\$ [[0, 7, 5, 9], [0, 9, 7, 5], [0, 5, 9, 7]] \$$$

$$[0, y_3, y_1, y_2]$$

7. Coloring, $\{3, 4\}$

R: [2, 3, 4, 3]

B: [4, 4, 1, 2]

‘ See graph

‘ ‘ See pair graph

‘

Δ -Rank	$A+(1/2)\Delta$	$A-(1/2)\Delta$	R	B
3 vs 3	4 vs 4	4 vs 4	3 vs 3	3 vs 3

Omega Rank for R : cycles: $\{\{3, 4\}\}$ order: 2

See Matrix

$$\$ [[0, 3, 12, 6], [0, 0, 9, 12], [0, 0, 12, 9]] \$$$

$$[0, y_3, y_2, y_1]$$

Omega Rank for B : cycles: $\{\{2, 4\}\}$ order: 2

See Matrix

$$\$ [[6, 7, 0, 8], [0, 8, 0, 13], [0, 13, 0, 8]] \$$$

$$[y_1, y_2, 0, y_3]$$

8 . Coloring, $\{2, 3, 4\}$

R: $[2, 4, 4, 3]$

B: $[4, 3, 1, 2]$

‘ See graph

‘ ‘ See pair graph

‘

Δ -Rank	$A+(1/2)\Delta$	$A-(1/2)\Delta$	R	B
3 vs 3	4 vs 4	4 vs 4	3 vs 3	4 vs 4

Omega Rank for R : cycles: $\{\{3, 4\}\}$ order: 2

See Matrix

$$\$ [[0, 3, 7, 11], [0, 0, 11, 10], [0, 0, 10, 11]] \$$$

$$[0, y_1, y_2, y_3]$$

Omega Rank for B : cycles: $\{\{1, 2, 3, 4\}\}$ order: 4

See Matrix

$$\$ [[6, 7, 5, 3], [5, 3, 7, 6], [7, 6, 3, 5], [3, 5, 6, 7]] \$$$

$$[y_1, y_3, y_4, y_2]$$

SUMMARY	
Graph Type	NOT CC
$v(\mathbf{A})$	0
$v(\Delta)$	1
π	[3, 5, 6, 7]
Dbly Stoch	false

SANDWICH		Total 0
No .	Coloring	Rank

RT GROUPS		Total 0	
No .	Coloring	Rank	Solv

Δ -RANK'D	SC'D !RK'D	τ -RANK'D	R/B RANK'D	NOT SYNC'D	Total Runs	2^{n-1}
8	0	6, 8	8, 8	0	8	8
