

Solutions

4(1,0;2):

4 1 2 0

3 1 2 4

6(1,0;4):

6 1 5 2 3 4

5 4 3 1 6 2

8(1,0;4):

8 1 7 2 5 3 4 0

7 6 5 3 2 1 4 8

10(1,0;4):

10 1 9 2 6 0 5 4 7 8

9 8 7 4 6 5 1 3 10 2

12(1,0;7):

12 1 11 2 10 3 9 6 8 4 5 0

11 10 9 8 7 6 3 2 4 1 5 12

14(1,0;9):

14 1 13 2 12 3 11 4 10 6 7 5 8 9

13 12 11 10 9 8 7 6 4 1 2 3 14 5

16(1,0;9):

16 1 15 2 14 3 13 4 12 6 11 8 9 5 7 0

15 14 13 12 11 10 9 8 6 5 3 1 4 2 7 16

18(1,0;10):

18 1 17 2 16 3 15 4 14 5 6 0 7 8 13 9 12 10

17 16 15 14 13 12 11 10 9 1 6 7 18 5 4 3 2 8

20(1,0;12):

20 1 19 2 18 3 17 4 16 5 15 6 12 10 13 9 14 7 8 0

19 18 17 16 15 14 13 12 11 10 9 6 2 3 4 5 7 1 8 20

22(1,0;14):

22 1 21 2 20 3 19 4 18 5 17 6 16 7 12 8 15 9 11 10 13 14

21 20 19 18 17 16 15 14 13 12 11 10 9 5 4 7 6 2 1 3 22 8

24(1,0;14):

24 1 23 2 22 3 21 4 20 5 19 6 18 7 16 8 15 12 17 11 13 9 10 0

23 22 21 20 19 18 17 16 15 14 13 12 11 9 8 7 3 5 6 2 4 1 10 24

26(1,0;15):

26 1 25 2 24 3 23 4 22 5 21 6 20 7 19 12 17 11 10 0 9 8 16 14 18 15

25 24 23 22 21 20 19 18 17 16 15 14 13 12 7 5 6 26 10 9 1 8 2 4 3 11

28(1,0;17):

28 1 27 2 26 3 25 4 24 5 23 6 22 7 21 8 20 12 19 9 18 13 17 14 16 10 11 0
27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 8 7 10 9 5 4 3 2 6 1 11 28

30(1,0;19):

30 1 29 2 28 3 27 4 26 5 25 6 24 7 23 8 22 9 21 11 20 12 17 10 16 13 15 14 18 19
29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 10 9 8 5 7 6 3 2 1 4 30 11

32(1,0;19):

32 1 31 2 30 3 29 4 28 5 27 6 26 7 25 8 24 9 23 11 22 12 21 14 20 15 19 17 18 10 13 0
31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 12 11 10 9 7 6 5 4 2 1 8 3 13 32

34(1,0;20):

34 1 33 2 32 3 31 4 30 5 29 6 28 7 27 8 26 9 25 10 21 11 20 12 13 0 14 15 19 16 23 18 24 22
33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 11 10 9 8 1 13 14 34 4 3 7 5 6 2 12

36(1,0;22):

36 1 35 2 34 3 33 4 32 5 31 6 30 7 29 8 28 9 27 10 26 11 24 12 23 15 25 16 22 17 21 18 20 13
14 0
35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 13 12 11 8 10 9 6 5 4 3 2 7 1
14 36

40(1,0;25):

40 0 39 1 38 2 37 3 36 4 35 5 34 6 33 7 32 8 31 9 30 10 29 11 28 13 27 14 26 15 23 16 20 17
22 12 21 19 25 24
40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 15 14 13 12 11 8 7 4
3 5 10 9 2 6 1 16

44(1,0;28):

44 0 43 1 42 2 41 3 40 4 39 5 38 6 37 7 36 8 35 9 34 10 33 11 32 12 31 13 29 14 26 15 25 16
30 17 24 18 23 19 22 20 28 27
44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 16 15 12
11 10 9 14 13 7 6 5 4 3 2 8 1 17

Cross:

14:

13 1 12 2 11 3 10 4 8 7 9 6 5 0

50:

49 1 48 2 47 3 46 4 45 5 44 6 43 7 42 8 41 9 40 12 39 13 38 14 37 15 36 16 35 17 34 18 32 19
31 20 50 21 30 22 29 23 28 24 27 25 26 11 10 0

86:

85 1 84 2 83 3 82 4 81 5 80 6 79 7 78 8 77 9 76 10 75 11 74 12 73 13 72 14 71 17 70 18 69 19
68 20 67 21 66 22 65 23 64 24 63 25 62 26 61 27 60 28 59 29 58 30 86 31 57 32 56 33 55 34
54 35 53 36 52 40 51 37 50 45 49 39 46 38 47 41 44 42 43 16 15 0

Solutions Using Patterns

Pattern for 14:

14:

50:

86:

122:

158:

194:

230:

Pattern for 50:

14:

None

50:

None

86:

None

122:

None

158:

194:

230:

Pattern for 50 with 1 switch:

14:

13 1 11 3 14 5 12 7 10 9 8 2 4 0

13 1 12 2 11 3 10 5 9 8 7 4 6 0

13 1 11 3 14 5 12 7 10 9 8 4 6 0

13 14 12 1 11 2 10 3 8 4 7 5 6 9 0

50:

None

86:

None

122:

158:

194:

230:

Pattern for simplest:

14:

13 1 12 2 11 3 10 4 8 7 9 6 5 0

13 1 12 2 11 3 6 4 10 5 9 8 7 0

13 1 5 2 11 3 14 4 9 10 12 6 7 0

50:

86:


122:


158:


194:


230:


Sheets


 Graphs
All Calculations


 Solutions4
32 Solutions

 Solutions6
96 Solutions

 Solutions8
368 Solutions

 Solutions10
7,640 Solutions

 Solutions12
57,840 Solutions

 Solutions14
1,136,520 Solutions

Ideas

1. Use solutions for 14 of some sort to check a pattern or to check higher solutions.
2. Find solutions to higher numbers for patterns.
3. Find pattern of simplest solutions to predict number of simple solutions in higher numbers
4. Ask Dr. Cross about different possible patterns that could work for me to try.