



Problem of the Week

Problem B and Solution

Amazing Grids

Problem

If possible, for each maze, find your way from the top left square to the bottom right square, moving only horizontally or vertically to achieve the set of numbers specified in the title.

Multiples of 4, in order

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| 4 | 10 | 14 | 18 | 22 | 26 | 30 | 34 | 38 | 42 |
| 8 | 14 | 24 | 28 | 32 | 36 | 40 | 44 | 46 | 50 |
| 12 | 16 | 20 | 28 | 30 | 38 | 42 | 46 | 50 | 54 |
| 16 | 18 | 22 | 26 | 34 | 42 | 70 | 66 | 62 | 58 |
| 20 | 24 | 26 | 28 | 38 | 46 | 50 | 62 | 66 | 62 |
| 22 | 28 | 30 | 32 | 42 | 50 | 54 | 58 | 70 | 66 |
| 36 | 32 | 34 | 36 | 46 | 54 | 58 | 62 | 74 | 70 |
| 40 | 34 | 36 | 38 | 50 | 54 | 58 | 66 | 70 | 74 |
| 44 | 48 | 52 | 56 | 60 | 62 | 66 | 70 | 74 | 78 |
| 46 | 50 | 54 | 56 | 64 | 68 | 72 | 76 | 80 | 84 |

Multiples of 7, in order

| | | | | | | | | | |
|----|----|----|----|----|-----|-----|-----|-----|-----|
| 7 | 14 | 21 | 27 | 34 | 41 | 48 | 55 | 62 | 69 |
| 14 | 20 | 28 | 33 | 40 | 47 | 54 | 61 | 70 | 76 |
| 21 | 27 | 35 | 42 | 49 | 54 | 61 | 68 | 77 | 83 |
| 28 | 35 | 40 | 47 | 56 | 61 | 63 | 75 | 84 | 90 |
| 34 | 41 | 47 | 50 | 63 | 68 | 75 | 82 | 90 | 97 |
| 41 | 48 | 54 | 58 | 70 | 77 | 84 | 89 | 97 | 104 |
| 49 | 55 | 61 | 65 | 72 | 79 | 91 | 96 | 104 | 111 |
| 56 | 62 | 68 | 72 | 79 | 86 | 98 | 103 | 111 | 118 |
| 63 | 69 | 75 | 82 | 89 | 96 | 105 | 112 | 119 | 125 |
| 70 | 76 | 83 | 89 | 96 | 103 | 110 | 117 | 126 | 133 |

Factors of 48, any order

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| 48 | 2 | 4 | 12 | 24 | 48 | 3 | 8 | 6 | 10 |
| 1 | 9 | 13 | 15 | 20 | 40 | 13 | 22 | 14 | 12 |
| 24 | 12 | 6 | 4 | 1 | 2 | 16 | 18 | 22 | 24 |
| 5 | 8 | 10 | 14 | 18 | 22 | 26 | 20 | 28 | 16 |
| 6 | 3 | 14 | 7 | 1 | 4 | 3 | 15 | 20 | 10 |
| 10 | 16 | 22 | 5 | 20 | 2 | 28 | 18 | 16 | 14 |
| 8 | 12 | 26 | 9 | 13 | 6 | 3 | 8 | 22 | 24 |
| 14 | 2 | 4 | 13 | 20 | 1 | 17 | 24 | 3 | 5 |
| 16 | 7 | 6 | 1 | 4 | 12 | 14 | 26 | 22 | 1 |
| 8 | 4 | 20 | 5 | 18 | 24 | 2 | 6 | 8 | 3 |

Composite numbers

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| 45 | 1 | 41 | 16 | 15 | 27 | 33 | 18 | 9 | 11 |
| 22 | 15 | 7 | 11 | 25 | 33 | 37 | 20 | 23 | 32 |
| 3 | 18 | 13 | 41 | 13 | 40 | 7 | 17 | 8 | 12 |
| 17 | 9 | 7 | 43 | 2 | 12 | 18 | 21 | 28 | 35 |
| 23 | 12 | 33 | 27 | 7 | 35 | 11 | 23 | 42 | 40 |
| 32 | 2 | 40 | 48 | 13 | 19 | 21 | 13 | 16 | 25 |
| 37 | 16 | 19 | 11 | 12 | 43 | 23 | 24 | 32 | 40 |
| 9 | 25 | 18 | 14 | 8 | 25 | 41 | 11 | 46 | 50 |
| 16 | 31 | 4 | 1 | 2 | 30 | 51 | 28 | 24 | 17 |
| 25 | 43 | 6 | 22 | 27 | 29 | 38 | 19 | 63 | 42 |

Solution

Solutions are given as continuous lines on the first three mazes. The final maze has no solution; two (of many possible) attempts are shown with dotted lines, both working forward and backward, but both dead-end.

