



Gentle – 3918, Monday 22nd September, 2014

| | | | | | | | | |
|----|----|----|----|----|----|----|----|----|
| 3 | 10 | | 6 | | 11 | | 22 | |
| | 21 | | | 5 | | 12 | | |
| 15 | | 11 | 17 | | 20 | 3 | | 8 |
| 6 | | | | | | 10 | | |
| 13 | 23 | 13 | 4 | | 22 | | 13 | |
| | | | 9 | 17 | 12 | | 4 | 3 |
| | | | | | | 8 | | |
| 16 | 8 | | 14 | 3 | | | 17 | 11 |
| | 3 | | | 12 | | | | |

Killer Sudoku

- Different strategies, but here is mine
- “Low hanging fruit” – need to memorise these
- Complete accuracy is a must, both adding up and using normal Sudoku rules
- No guessing! It is like a....
- Detective story
 - Looking for clues
 - Process of elimination
- Tools – Sudoku ‘cages’

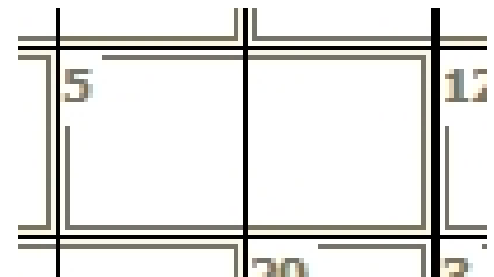
Low hanging fruit (1)

- The more squares you can complete the easier it becomes – don't forget normal Sudoku rules!

- The obvious:
two squares which add up to 3
must contain 1 and 2



- The fewest possibilities: two squares which
add up to 5
must contain 1 and 4, or 2 and 3



Thus it is helpful need to memorise these:

Boxes which add up to **sum** and have **n** boxes always contain these **digits**:-

| sum | n | digits |
|-----|---|------------|
| 3 | 2 | 1, 2 |
| 4 | 2 | 1, 3 |
| 17 | 2 | 8, 9 |
| 16 | 2 | 7, 9 |
| 6 | 3 | 1, 2, 3 |
| 7 | 3 | 1, 2, 4 |
| 24 | 3 | 7, 8, 9 |
| 23 | 3 | 6, 8, 9 |
| 10 | 4 | 1, 2, 3, 4 |
| 11 | 4 | 1, 2, 3, 5 |
| 30 | 4 | 6, 7, 8, 9 |
| 29 | 4 | 5, 7, 8, 9 |

Low hanging fruit (1a)

This continues up to 45 but may not always be that useful at the beginning

| sum | n | digits |
|-----|---|---------------|
| 15 | 5 | 1, 2, 3, 4, 5 |
| 16 | 5 | 1, 3, 3, 4, 6 |
| 35 | 5 | 5, 6, 7, 8, 9 |
| 34 | 5 | 4, 6, 7, 8, 9 |

and so on, you can see the list in the Sudoku 'cages'

More hanging fruit within reach

Only a limited number of possibilities:

| sum | n | These or | These |
|-----|---|----------|---------|
| 5 | 2 | 1, 4 | 2, 3 |
| 6 | 2 | 1, 5 | 2, 4 |
| 15 | 2 | 6, 9 | 7, 8 |
| 14 | 2 | 5, 9 | 6, 8 |
| 8 | 3 | 1, 2, 5 | 1, 3, 4 |
| 22 | 3 | 6, 7, 9 | 5, 8, 9 |

As the number of cells increase and the numbers are less close to the sum of consecutive digits the number of possibilities increase.

These also are useful for eliminations when used in combination

| sum | n | These or | These or | These or | These |
|-----|---|----------|----------|----------|-------|
| 7 | 2 | 1, 6 | 2, 5 | 3, 4 | |
| 8 | 2 | 1, 7 | 2, 6 | 3, 5 | |
| 12 | 2 | 3, 9 | 5, 7 | 4, 8 | |
| 13 | 2 | 4, 9 | 5, 8 | 6, 7 | |
| 9 | 2 | 1, 8 | 2, 7 | 3, 6 | 4, 5 |
| 10 | 2 | 1, 9 | 2, 8 | 3, 7 | 4, 6 |
| 11 | 2 | 2, 9 | 3, 8 | 4, 7 | 5, 6 |

Low hanging fruit (2)

- Every bold square **must** contain the digits 1 to 9 and **must** therefore add up to 45.

| | | | | |
|-----------|-----------|-----------|----------|--|
| 8 | 10 | 6 | | |
| 21 | 5 | | | |
| 13 | 11 | 17 | | |
| 6 | | | | |
| 13 | 23 | 13 | 4 | |

- Every row or column **must** contain the digits 1 to 9 and **must** therefore add up to 45.

| | | | | | | | | |
|-----------|-----------|-----------|--|-----------|----------|--|----------|--|
| 21 | 5 | 12 | | | | | | |
| 15 | 11 | 17 | | 20 | 3 | | 8 | |

Low hanging fruit (3)

- Following on from every bold square or row/column adding up to 45 adjoining ones must add up to multiples of 45, for example:-

| | | | | | | | | |
|----|---|--|----|----|--|---|----|----|
| 16 | 8 | | 14 | 3 | | ? | 17 | 11 |
| | 3 | | | 12 | | | | |

$$16 + 8 + 14 + 3 + 17 + 11 \text{ (top row)} + 3 + 12 \text{ (bottom row)} = 84$$

You then need to add 6 to get $2 \times 45 = 90$ so the ? Must be 6

So useful to remember....

- $2 \times 45 = 90$
- $3 \times 45 = 135$
- $4 \times 45 = 180$
- $5 \times 45 = 225$

No need to remember any more as you can always start from the other end of the grid!

Eliminating suspects!

Don't forget to use normal Sudoku rules

But also by the impossible – it can be useful to remember that

no two unique digits can add up to more than 17 or less than 3

no three unique digits can add up to more than 24 or less than 6

no four unique digits can add up to more than 30 or less than 10

These are useful for eliminating the impossible combinations

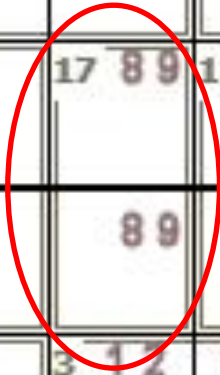
Marking up you clues

- Mark up any where there are only two options

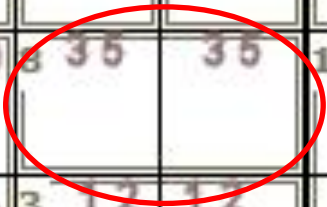
| | | | | | | | | |
|--------|-------|-----|-------|-------|-----|-------|--------|-------|
| 3 1 2 | 10 | | 6 | | 11 | | 22 | |
| 1 2 | 21 | | | 5 | | 12 | | |
| 15 | | 11 | 17 | | 20 | 3 1 2 | 1 2 | 8 |
| 6 | | | | | | 10 | | |
| 13 | 23 | 13 | 4 1 3 | 1 3 | 22 | | 13 | |
| | | | 9 | 17 | 12 | | 4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

| | | | | | | | | |
|--------|------|----|------|------|----|------|--------|------|
| 3 12 | 10 | | 6 | | 11 | | 22 | |
| 12 | 21 | | | 5 | | 12 | | |
| 15 | | 11 | 17 | | 20 | 3 12 | 12 | 8 |
| 6 | | | | | | 10 | | |
| 13 | 23 | 13 | 4 13 | 13 | 22 | | 13 | |
| | | | 9 | 17 | 12 | | 4 13 | 3 12 |
| | | | | | | 8 | 13 | 12 |
| 16 7 9 | 8 | | 14 | 3 12 | 12 | 2 | 17 8 9 | 11 |
| 7 9 | 3 12 | 12 | | 12 | | 6 | 8 9 | |

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



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



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

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



Not
1



| | | | | | | | | |
|--------|-------|-----|-------|---------|-----|-------|--------|---------|
| 3 1 2 | 10 | | 6 | | 11 | | 22 | |
| 1 2 | 21 | | | 5 | | 12 | | |
| 15 | | 11 | 17 | | 20 | 3 1 2 | 1 2 | 8 3 5 |
| 6 4 5 | 2 1 | | | | | 10 | | 3 5 |
| 13 | 23 | 13 | 4 1 3 | 1 3 | 22 | | 13 | |
| | | | 9 | 17 8 9 | 12 | | 4 1 3 | 3 1 2 |
| | | | | 8 9 | | 8 | 1 3 | 1 2 |
| 16 7 9 | 8 3 5 | 3 5 | 1 4 | 3 1 2 | 1 2 | 6 | 17 8 9 | 1 1 4 7 |
| 7 9 | 3 1 2 | 1 2 | 6 | 1 2 3 4 | 3 4 | 5 | 8 9 | 4 7 |

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

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

| | | | | | | | | |
|----------------------|--------------------|------------------|------------------|----------------------|------------------|--------------------|----------------------|----------------------|
| 3 1 2 | 10 | | 6 | | 11 | | 22 | |
| 1 2 | 21 | | | 5 | | 12 | | |
| ¹⁵ 8 | ¹¹ 7 | ³ 3 | ¹⁷ | | ²⁰ | ^{3 1 2} 1 | ^{1 2} 2 | ^{8 3 5} 5 |
| ^{6 4 5} 5 | ^{2 1} 1 | ⁸ 8 | | | | ¹⁰ 4 | ⁶ 6 | ^{3 5} 3 |
| ¹³ | ^{2 3} 9 | ¹³ | ^{4 1 3} | ^{1 3} | ^{2 2} 6 | ^{7 9} | ^{1 3} 5 | ⁸ 8 |
| | ⁶ 6 | | ⁹ | ^{1 7 8 9} 8 | ^{1 2} | ^{7 9} | ^{4 1 3} 1 | ^{3 1 2} 2 |
| | ⁸ 8 | | | ^{9 9} 9 | | ⁸ 2 | ^{1 3} 3 | ^{1 2} 1 |
| ^{1 6 7 9} 7 | ^{8 3 5} | ^{3 5} | ^{1 4} 8 | ^{3 1 2} | ^{1 2} | ⁶ 6 | ^{1 7 8 9} 9 | ^{1 1 4 7} 4 |
| ^{7 9} 9 | ^{3 1 2} 2 | ^{1 2} 1 | ⁶ 6 | ^{1 2 3 4} | ^{3 4} | ⁵ 5 | ^{8 9} 8 | ^{4 7} 7 |

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

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

| | | | | | | | | | | | | |
|-------|----|-------|-----|-------|-----|--------|-----|---|-------|-------|--------|-----|
| 3 1 2 | 10 | | 6 | | 11 | | 22 | | | | | |
| 1 2 | 21 | | | 5 | | 12 | | | | | | |
| 15 | 8 | 7 | 11 | 3 | 17 | 9 | 6 | 4 | 3 1 2 | 1 2 | 8 | 3 5 |
| 6 | 5 | 1 | 8 | 2 | 7 | 9 | 10 | 4 | 6 | 3 | 3 5 | |
| 13 | 4 | 9 | 2 | 4 1 3 | 1 3 | 22 | 6 | 7 | 5 | 8 | | |
| 3 | 6 | 7 | 9 | 4 | 17 | 8 9 | 12 | 5 | 9 | 4 1 3 | 3 1 2 | |
| 6 | 8 | 4 | 5 | 9 | 7 | 8 | 2 | 3 | 1 | | | |
| 16 | 7 | 8 3 5 | 3 5 | 14 | 8 | 3 1 2 | 1 2 | 6 | 17 | 8 9 | 11 4 7 | |
| 9 | 9 | 3 1 2 | 1 2 | 1 | 6 | 12 3 4 | 3 4 | 5 | 8 | 8 9 | 4 7 | |

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

| | | | | | | | | |
|--------------------------------|-------------------------------|------------------|-------------------------------|--------------------------------|-----------------|-------------------------------|--------------------------------|--------------------------------|
| ³ | ^{1 2} 4 | ¹⁰ 6 | ⁵ 1 | 5 | ¹¹ 8 | 3 | ²² 7 | 9 |
| ^{1 2} | ²¹ | | ⁵ | | ¹² 8 | 4 | 6 | |
| ¹⁵ 8 | 7 | ¹¹ 3 | ¹⁷ 9 | 6 | ²⁰ 4 | ³ ^{1 2} 1 | ^{1 2} 2 | ⁸ ^{3 5} 5 |
| ⁶ ^{4 5} 5 | ^{2 1} 1 | 8 | 2 | 7 | 9 | ¹⁰ 4 | 6 | ^{3 5} 3 |
| ¹³ 4 | ²³ 9 | ¹³ 2 | ⁴ ^{1 3} 1 | ^{1 3} 3 | ²² 6 | ^{7 9} 7 | ¹³ 5 | 8 |
| 3 | 6 | 7 | ⁹ 4 | ¹⁷ ^{8 9} 8 | ¹² 5 | ^{7 9} 9 | ⁴ ^{1 3} 1 | ³ ^{1 2} 2 |
| 6 | 8 | 4 | 5 | ⁹ 9 | 7 | ⁸ 2 | ^{1 3} 3 | ^{1 2} 1 |
| ¹⁶ ^{7 9} 7 | ⁸ ^{3 5} | ^{3 5} | ¹⁴ 8 | ³ ^{1 2} | ^{1 2} | 6 | ¹⁷ ^{8 9} 9 | ¹¹ ^{4 7} 4 |
| ^{7 9} 9 | ³ ^{1 2} 2 | ^{1 2} 1 | 6 | ¹² ^{3 4} | ^{3 4} | 5 | ^{8 9} 8 | ^{4 7} 7 |

| | | | | | | | | |
|---------------------|--------------------|------------------|--------------------|---------------------|------------------|--------------------|---------------------|---------------------|
| ³ 2 | ^{1 2} 4 | ¹⁰ 6 | ⁶ 1 | 5 | ¹¹ 8 | 3 | ²² 7 | 9 |
| ^{1 2} 1 | ^{2 1} 5 | 9 | ⁵ 7 | 3 | 2 | ¹² 8 | 4 | 6 |
| ¹⁵ 8 | 7 | ¹¹ 3 | ¹⁷ 9 | 6 | ²⁰ 4 | ^{3 1 2} 1 | ^{1 2} 2 | ^{8 3 5} 5 |
| ^{6 4 5} 5 | ^{2 1} 1 | 8 | 2 | 7 | 9 | ¹⁰ 4 | 6 | ^{3 5} 3 |
| ¹³ 4 | ²³ 9 | ¹³ 2 | ^{4 1 3} 3 | ^{1 2} 1 | ²² 6 | ^{7 9} 7 | ¹³ 5 | 8 |
| 3 | 6 | 7 | ⁹ 4 | ^{17 8 9} 8 | ¹² 5 | ^{7 9} 9 | ^{4 1 3} 1 | ^{3 1 2} 2 |
| 6 | 8 | 4 | 5 | ⁹ 9 | 7 | ⁸ 2 | ^{1 3} 3 | ^{1 2} 1 |
| ^{16 7 9} 7 | ^{8 3 5} 3 | ^{3 5} 5 | ¹⁴ 8 | ^{3 1 2} 2 | ^{1 2} 1 | 6 | ^{17 8 9} 9 | ^{11 4 7} 4 |
| ^{7 9} 9 | ^{3 1 2} 2 | ^{1 2} 1 | 6 | ^{12 3 4} 4 | ^{3 4} 3 | 5 | ^{8 9} 8 | ^{4 7} 7 |

Sudoku 'cages'

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

| | | |
|---|----|-------|
| 3 | 16 | 1/6/9 |
| 3 | 16 | 1/7/8 |
| 3 | 16 | 2/5/9 |
| 3 | 16 | 2/6/8 |
| 3 | 16 | 3/4/9 |
| 3 | 16 | 3/5/8 |
| 3 | 16 | 3/6/7 |
| 3 | 16 | 4/5/7 |
| 3 | 17 | 1/7/9 |
| 3 | 17 | 2/6/9 |
| 3 | 17 | 2/7/8 |
| 3 | 17 | 3/5/9 |
| 3 | 17 | 3/6/8 |
| 3 | 17 | 4/5/8 |
| 3 | 17 | 4/6/7 |
| 3 | 18 | 1/8/9 |
| 3 | 18 | 2/7/9 |
| 3 | 18 | 2/6/8 |

| | | |
|---|----|---------|
| 4 | 14 | 1/2/3/8 |
| 4 | 14 | 1/2/4/7 |
| 4 | 14 | 1/2/5/6 |
| 4 | 14 | 1/3/4/6 |
| 4 | 14 | 2/3/4/5 |
| 4 | 15 | 1/2/3/9 |
| 4 | 15 | 1/2/4/8 |
| 4 | 15 | 1/2/5/7 |
| 4 | 15 | 1/3/4/7 |
| 4 | 15 | 1/3/5/6 |
| 4 | 15 | 2/3/4/6 |
| 4 | 16 | 1/2/4/9 |
| 4 | 16 | 1/2/5/8 |
| 4 | 16 | 1/2/6/7 |
| 4 | 16 | 1/3/4/8 |
| 4 | 16 | 1/3/5/7 |
| 4 | 16 | 1/4/5/6 |
| 4 | 16 | 2/3/4/7 |

| | | |
|----|----|--------|
| 5 | 30 | 19 |
| | | |
| 15 | 8 | |
| | | 30 |
| | | |
| 2 | 20 | |
| 6 | | |
| 12 | | 7 5 2 |
| 3 | | |
| 9 | | 19 5 2 |

Sudoku 'cages' elimination

| |
|------------|
| 3 16 1/6/9 |
| 3 16 1/7/8 |
| 3 16 2/5/9 |
| 3 16 2/6/8 |
| 3 16 3/4/9 |
| 3 16 3/5/8 |
| 3 16 3/6/7 |
| 3 16 4/5/7 |
| 3 17 1/7/9 |
| 3 17 2/6/9 |
| 3 17 2/7/8 |
| 3 17 3/5/9 |
| 3 17 3/6/8 |
| 3 17 4/5/8 |
| 3 17 4/6/7 |
| 3 18 1/8/9 |
| 3 18 2/7/9 |
| 3 19 2/6/9 |

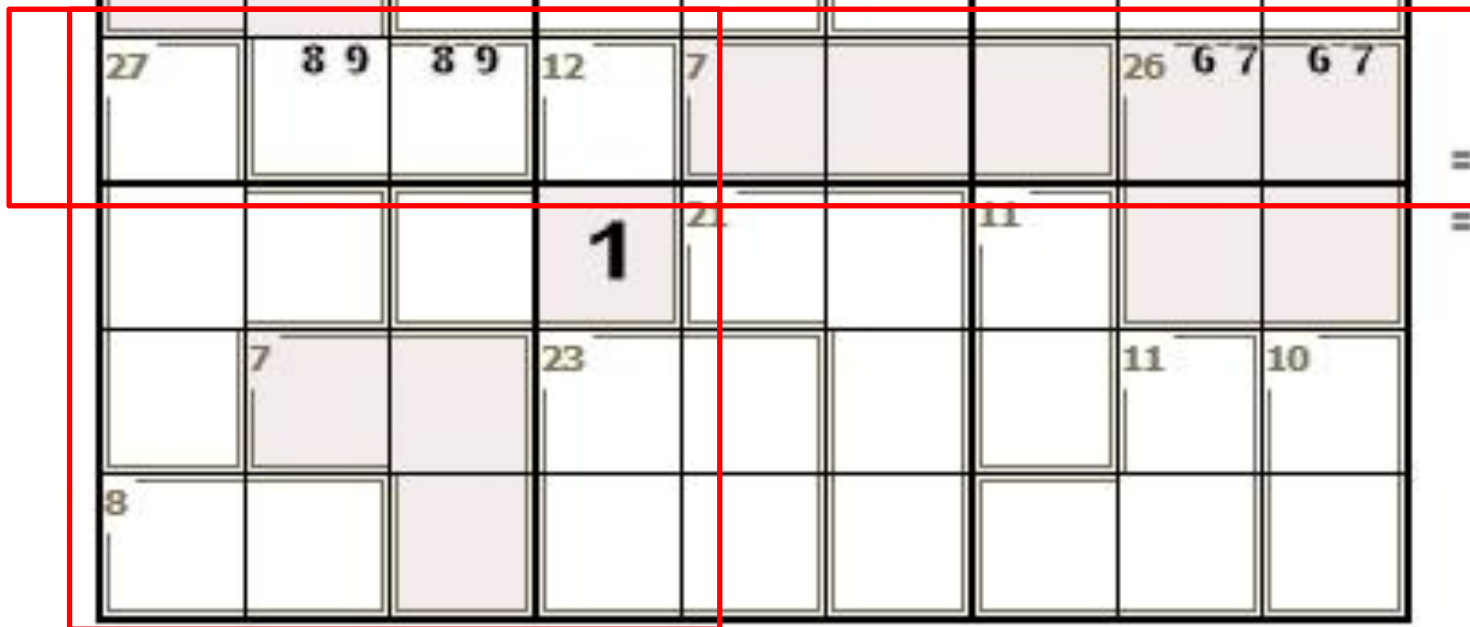
| |
|--------------|
| 4 14 1/2/3/8 |
| 4 14 1/2/4/7 |
| 4 14 1/2/5/6 |
| 4 14 1/3/4/6 |
| 4 14 2/3/4/5 |
| 4 15 1/2/3/9 |
| 4 15 1/2/4/8 |
| 4 15 1/2/5/7 |
| 4 15 1/3/4/7 |
| 4 15 1/3/5/6 |
| 4 15 2/3/4/6 |
| 4 16 1/2/4/9 |
| 4 16 1/2/5/8 |
| 4 16 1/2/6/7 |
| 4 16 1/3/4/8 |
| 4 16 1/3/5/7 |
| 4 16 1/4/5/6 |
| 4 16 2/3/4/7 |

Deadly – 3928, Saturday 27th September, 2014

| | | | | | | | | |
|----|----|----|----|----|----|----|----|----|
| 26 | | | | 21 | | | 8 | |
| 8 | 17 | | | | 16 | | 23 | |
| | | 19 | | 9 | | | | |
| 11 | | | | 27 | | | 13 | |
| 20 | | | | | 24 | | | |
| 27 | | | 12 | 7 | | | 26 | |
| | | | | 21 | | 11 | | |
| | 7 | | 23 | | | | 11 | 10 |
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| 26 | | | | 21 | | | 8 | |
| 8 | 17 | | | | 16 | | 23 | |
| | | 19 | | 9 | | | | |
| 11 | | | | 27 | 9 | | 13 | |
| 20 | 1 2 | 1 2 | | | 24 | | | |
| 27 | 8 9 | 8 9 | 12 | 7 | | | 26 | 6 7 |
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| 20 | 1 2 | 1 2 | | | 24 | | | |
| 27 | 3 5 | 8 9 | 8 9 | 12 3 5 | 7 124 | 124 | 124 | 26 6 7 6 7 |
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| | | | 5,6,7 | | 8 | | 3,4,9 | |
| 27 3 5 | 8 9 | 8 9 | 12 3 5 | 7 124 | 124 | 12 | 26 6 7 | 6 7 |
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$$13 + 13 + 24 = 53$$

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| 27 3 5 | 8 9 | 8 9 | 12 3 5 | 7 | 124 | 124 | 12 | 26 6 7 | 6 7 |
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| 27 | 3 5 | 8 9 | 8 9 | 12 | 3 5 | 7 12 4 | 12 4 | 12 |
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