



A blog for people who love puzzles. With a little indexing on the side.

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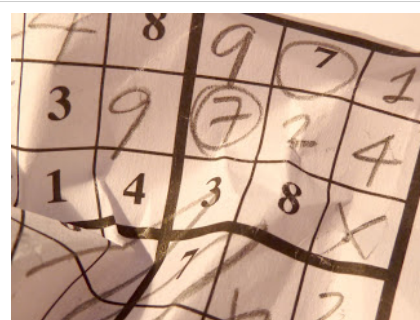
Tuesday, 11 December 2012

## How to judge the difficulty of a sudoku

You know how it goes ... nice shiny new sudoku all alluring in front of you, pencil and eraser at the ready. You start off all happy together, with a great life ahead of you, like this:



But all too soon the lies start. 'But, but ... you *said* a seven would go there! What do you *mean*, you've been seeing another five?' With a horrible inevitability, you end up like this:



What you need is a sudoku of the right difficulty level for you! A bit challenging — keep the relationship fresh and exciting — but without the deceit, long sullen silences, and angry outbursts.

Assessing difficulty levels of sudoku is surprisingly complicated, and can often only be really determined by solving the puzzle, which kinda defeats the purpose. The rankings given in newspapers and book collections of these tricky puzzles are often misleading.

After tech editing a book of sudokus (never again!), I came up with these pointers for assessing how easy or otherwise any given sudoku is.

I hope this list will give you a better idea of whether a particular sudoku is easy, hard, or very hard — but keep in mind they aren't hard and fast rules ... just as in any relationship, there are no standard rules that apply to everyone (well, except the toilet seat rule. **That** rule applies to everyone.)

### About Me



**Denise**

Canberra, ACT,  
Australia

I'm a puzzle writer,  
author, indexer, and  
graphic designer.

[View my complete profile](#)

### Nixie Cryptics

My Nixie cryptics are published in  
[The Puzzle Wizard's Word of](#)  
[Crosswords](#) magazine, and on the  
[Clue Detective Puzzle Agency](#).



### My Books

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### What's Gone Before

- ▶ [2015](#) (1)
- ▶ [2014](#) (18)
- ▶ [2013](#) (41)
- ▼ [2012](#) (46)

The pointers I've included here cover 'standard' 9x9 cell sudokus. It also doesn't matter what the symbols used are - the digits from 1–9, letters, symbols, or whatever.

### Counting the givens

Count the number of starting digits (known as *givens* or *clues*) in the entire sudoku, before you start to solve the puzzle. How many are there?

- **Easy** sudoku generally have over 32 givens (out of the total of 81 numbers in the answer)
- **Medium** sudoku have around 30-32 givens
- **Hard** sudoku have around 28-30 givens
- **Very Hard** sudoku have less than 28 givens

### Distribution of givens

Look at the distribution of the starting digit, or givens, in the puzzle, within each box (group of 3x3 cells). How many of them have 1 or no givens?

- **Easy** sudoku have more than one given in every box
- **Medium** sudoku may have a couple of boxes with only one given
- **Hard** sudoku may have a couple of boxes with only one given
- **Very Hard** sudoku may have several boxes with no givens at all

### How many of each?

Next, count how many of each of the digits from 1-9 appear as givens in the sudoku. Don't be shy, these are things you need to talk about with your sudoku, even if it's embarrassing. So shamelessly count how many times 1 appears as a given, then how many times 2 appears, and so on up to 9.

- In **Easy** sudoku, each digit from 1-9 appears as a given at least 3 times
- In **Medium** sudoku, some digits may only appear twice as a given, the rest will appear at least 3 times each
- In **Hard** sudoku, three or four digits may only appear 2 times as givens, and one digit may only appear once
- In **Very Hard** sudoku, most digits appear only 2 or 3 times, as well as several single occurrences

So, using the information you've gathered from the steps above, you can get a clearer idea of how ~~fucking impossible~~ tricky that deceptive little puzzle in front of you *really* is. Ask yourself honestly: is this a relationship that will drive you mad?

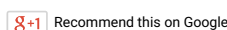
The final *definitive* bits of information can only be gathered by actually doing the puzzle (during the *post mortem*).

Make a note of how long it takes you to solve the puzzle, and whether you needed to make any guesses, using trial and error, along the way.

- **Easy** sudoku are very quick to solve, under 10 minutes on average, and no guesses are required.
- **Medium** sudoku take a bit longer to solve, somewhere between 10-20 minutes. No guesses are required.
- **Hard** sudoku may take up to 45 minutes to solve, and some trial and error may be needed (for example, one box may have two candidates, and no way of determining which digit to use apart from picking one, and seeing whether it works or not).
- **Very hard** sudoku can take over an hour to solve, and require trial and error.

I hope these pointers help you to better understand the sudoku in your life, and have positive supportive relationships with them. Invite me to the wedding.

Posted by [Denise](#) at 11:06



Labels: [analysing sudoku](#), [difficulty levels](#), [sudoku](#)

- ▼ **December** (3)
  - 15th Birthday Clue Writing Competition!
  - Gemini 6466
  - How to judge the difficulty of a sudoku
- **November** (4)
- **October** (3)
- **September** (4)
- **August** (6)
- **July** (4)
- **June** (5)
- **May** (7)
- **April** (7)
- **March** (1)
- **February** (1)
- **January** (1)
- **2011** (11)

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**1 comment:****John** Sunday, December 30, 2012

Hi,

I would recommend [www.puzzlemadness.co.uk](http://www.puzzlemadness.co.uk). They publish 8 daily variations on Sudoku every day including Jigsaw sudoku, Samurai Sudoku and bigger 12\*12 and 16\*16 grids. If you are a registered user (free) it will track which puzzles you have done and you can save your progress to come back to it the next day (very useful with the bigger puzzles).

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