

Using Economic Sudoku to Teach Cost

Co-Authors

We have been using economics sudokus in our classes since 2014!



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Master puzzler.



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Sudoku is better with a beer.

Problem

- The best known game used to teach cost is the tennis ball game, which is a demonstration of diminishing returns.
- The tennis ball game assumes that students know how to calculate costs. We have found that students do not understand the differences between total, average and marginal costs, hence the need for additional scaffolding.

Solution

- When teaching costs, instructors should introduce the sudoku exercise before the tennis ball game, since it requires students to understand how to fill in an incomplete cost table, whereas the tennis ball game does this automatically with a spreadsheet.

Puzzles

Puzzles of all types, including jigsaw, crossword, brain teasers and sudoku, have become an increasingly popular medium in the classroom (Walstad and Bosshardt, 2020). These puzzles challenge the mind by testing people's memory, cognitive thinking, and problem-solving skills as they seek a correct solution.

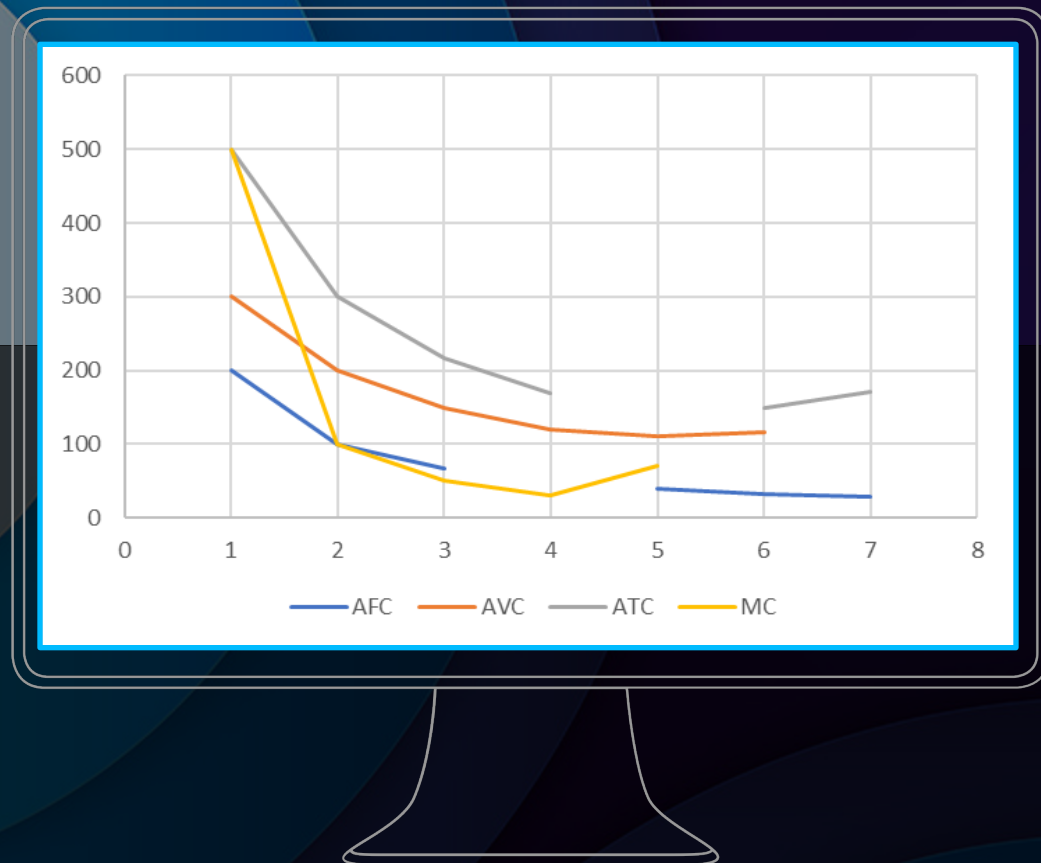
Sudoku

Sudoku is a puzzle in which missing numbers are filled into a grid under a set of rules. We adapt the traditional sudoku to economics to help learners understand how costs are calculated and spatial relationships are graphed.



Here is an Easy Economic Sudoku

Recommended audience: high school students, students with low math skills.



Q	FC	VC	TC	AFC	AVC	ATC	MC
1	200		500	200	300	500	500
2	200	400	600	100	200	300	100
3		450	650	66.67	150	216.67	50
4	200	480	680		120	170	30
5	200	550	750	40	110		70
6	200	700	900	33.33	116.67	150	
7	200	1000	1200	28.57		171.43	300

Time Limit

2 minutes to complete

Team-based

4-5 students per group

**Are you ready to play a
more challenging Sudoku?**

Ground Rules

Students are given a formula sheet and allowed to use a calculator.

Medium Sudoku

You will have 4 minutes to complete.

		1						
					1			
						2		
							1	
								1

Start

Hard Sudoku

You will have six minutes to complete.

Lesson Debrief

From [data](#) manipulation to spatial understanding

Point out that AFC declines as Q increases.

Point out that AVC and ATC converge as Q increases.

Point out that MC crosses through the minimum points of ATC and AVC.

Questions?



Please complete the google form by
scanning the QR code with your
phone.