

Brain Teasers, Trivia, and Math Puzzlers
MATC Sudoku Festival, April 27, 2007

- #1) “Petals Around the Rose”; see handout in team packets.
- #2) What is the smallest whole number that gives a remainder of 1 when it is divided by 2, 3, 4, 5, 6, 7, 8 or 9?
- #3) Two boats traveling at different speeds leave simultaneously from opposite (say north and south) banks of a river. They pass the first time at a point 400 yards from the north bank. When each reaches the opposite side it instantly reverses direction and goes back towards its original side without changing speed. The next time they pass is when they are 200 yards from the south bank. What is the distance across the river?
- #4) The following number has a rather special characteristic. What makes it unique?

8,549,176,320

It’s Greek to Me! Match the correct ancient Greek mathematician to each of the following statements:

#5) He wrote the “Elements”.	A. Archimedes B. Zeno C. Plato D. Pythagoras E. Aristotle F. Euclid
#6) He purportedly ran through the streets shouting “Eureka” after getting out of the tub.	
#7) He was a strict vegetarian but would not eat beans.	
#8) He used his famous paradoxes to conclude that all motion is impossible.	

- #9) A single elimination tournament with 5,321 entries is being held. A match is a game between two entrants, with the winner advancing and the loser eliminated from the tournament. How many matches must be played in order to determine the champion?

Tie-breaker:

Write 271 as the sum of positive real numbers so as to maximize their product.



Who Wants To Be A Sudoku Master? 2007

Team Puzzle/Trivia/Brainteaser Contest: Entry Form

Please Print

Student Names: _____
High School: _____
School Address: _____
Contact Person: _____ Contact Person Phone: _____
Contact E-mail: _____

Various questions will be posed throughout the main Sudoku Master Competition. While your school finalist is competing, other school team members may work together to submit the best answers for each of these puzzle, trivia, and brainteaser questions. Write your final answers below and turn in this entry form by 11:40am to the contest judge. The start of Question #1 is in your school registration packet.

<p>1) Explain how the “Petals Around The Rose” dice sums are calculated. The rose refers to the configuration of dots. “Petals” are the outside dots, and are only counted if there is a center dot. So count 2 pips for a “3”, 4 for a “5”, and everything else adds nothing to the total. Note that “1” is a rose with no petals, and the even numbers are not roses.</p>
<p>2) The Remainder. The least common multiple of these divisors is $9 \times 8 \times 7 \times 5 = 2520$. So 2521 has remainder 1 with each division.</p>
<p>3) Two Boats. The river is 100 yards across.</p>
<p>4) What’s So Special? The digits of this number are in alphabetical order.</p>
<p>It’s Greek to Me! Fill in the matching letters for the correct answers:</p>
<p>5) F 6) A 7) D 8) B</p>
<p>9) Elimination! All but one player must be eliminated, so this will take 5,320 matches.</p>
<p>Tie Breaker: Write 271 as the sum of positive real numbers so as to maximize their product. This question was intentionally open-ended. Can you find a bigger product than $(2.71)^{100}$?</p>

We appreciate your participation in the 2007 *Who Wants to Be a Sudoku Master?* Competition.