



Math Mole

June 6, 2005

Happy Monday!

Volume 2, No. 1

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- Mathematician of the Day
- Logic Puzzle
- Class Outline
- Today's Editor: Sara
- Tomorrow: Daniel

Einstein's Logic Puzzle: (although authorship is in doubt, this is attributed to Einstein and his claim that only 2% of the population could complete it)

There are five houses in five different colors. In each house lives a person of a different nationality. These five owners drink a certain beverage, smoke a certain brand of cigarettes, and keep a certain pet. No owners have the same pet, smoke the same brand of smoke, or drink the same drink.

The Brit lives in the red house.

The Swede keeps dogs as pets.

The Dane drinks tea.

The green house is on the left of the white house.

The green house owner drinks coffee.

The person who smokes Pall Mall rears birds.

The owner of the yellow house smokes Dunhill.

The man living in the house right in the center drinks milk.

The Norwegian lives in the first house.

The man who smokes Blend lives next to the one who keeps cats.

The man who keeps horses lives next to the man who smokes Dunhill.

The owner who smokes Blue Master drinks beer.

The German smokes Prince.

The Norwegian lives next to the blue house.

The man who smokes Blend has a neighbor who drinks water.

Answer this question: Who owns the fish?

Mathematician of the Day



Kurt Gödel, 1906-1978

- By his final years in the Gymnasium, which is the German equivalent of a preparatory high school, he had mastered university-level mathematics.
- Like Einstein, Gödel immigrated to the United States after the rise of the Nazi party and became a U.S. citizen. He was also a friend of Einstein's while at Princeton's Institute for Advanced Study.
- He is best known for his "Incompleteness Theorem." He proved fundamental results about axiomatic systems, showing that in any axiomatic mathematical system there are propositions that cannot be proved or disproved within the axioms of the system. In particular, he showed that the consistency of the axioms cannot be proved.
- In establishing his theorems, Gödel showed that there are problems that cannot be solved by any set of rules or procedures; instead, for these problems one must always extend the set of axioms. This disproved a common belief at the time that the different branches of mathematics could be integrated and placed on a single logical foundation.
- Gödel was of a delicate mental disposition; he suffered a number of nervous breakdowns in his lifetime. Towards the end of his life, he became convinced that he was being poisoned, and by refusing to eat to avoid being poisoned, he essentially starved himself to death.

Notes

Outline

Problems

and more Problems

Cartesian Products and Relations

- Domain

- Range

As far as the laws of mathematics refer to reality, they are not certain, and as far as they are certain, they do not refer to reality.

–Albert Einstein

Homework: