3. Analytical thinking puzzles

A mix of various puzzles for developing your creative thinking and analytical ability

1. You have 2 lengths of fuse that are guaranteed to burn for precisely 1 hour each. Other than that fact, you know nothing; they may burn at different (indeed, at variable) rates, they may be of different lengths, thick nesses, materials, etc. How can you use these two fuses to time a 45 minute interval?

2. The following riddle was supposedly posed by Albert Einstein; he reportedly claimed that less than 2 percent of t people in the world could solve it. There are 5 houses in 5 different colors. In each house lives a person with a different nationality. The 5 owners each drink a certain type of beverage, smoke a certain brand of cigar, and kee certain type of pet. No owners have the same pet, smoke the same brand of cigar or drink the same beverage. T following statements are all true:

    1. The Brit lives in the red house.
    2. The Swede keeps dogs as pets.
    3. The Dane drinks tea.
    4. The green house is immediately to the left of the white house.
    5. The green house's owner drinks coffee.
    6. The person who smokes Pall Mall rears birds.
    7. The owner of yellow house smokes Dunhill's.
    8. The man living in the center house drinks milk.
    9. The Norwegian lives in the first house.
    10. The man who smokes Blends lives next to the one who keeps cats.
    11. The man who keeps horses lives next to the one who smokes Dunhill's.
    12. The owner who smokes Bluemasters drinks beer.
    13. The German smokes Prince.
    14. The Norwegian lives next to the blue house.
    15. The man who smokes Blends has a neighbor who drinks water.

    The question is: "Who owns the fish?"

3. The warden meets with 23 new prisoners when they arrive. He tells them, "You may meet today and plan a strat But after today, you will be in isolated cells and will have no communication with one another.
"In the prison is a switch room, which contains two light switches labeled A and B, each of which can be in either on or the off position. I am not telling you their present positions. The switches are not connected to anything.
"After today, from time to time whenever I feel so inclined, I will select one prisoner at random and escort him to switch room. This prisoner will select one of the two switches and reverse its position. He must move one, but or one of the switches. He can't move both but he can't move none either. Then he'll be led back to his cell.
"No one else will enter the switch room until I lead the next prisoner there, and he'll be instructed to do the sam thing. I'm going to choose prisoners at random. I may choose the same guy three times in a row, or I may jump around and come back.
"But, given enough time, everyone will eventually visit the switch room as many times as everyone else. At any anyone of you may declare to me, 'We have all visited the switch room.' "If it is true, then you will all be set free is false, and somebody has not yet visited the switch room, you will be fed to the alligators."
Here's the question: What is the strategy the prisoners devise?

4. One Sunday the reverend of Woopwoop gathered all the married men after the weekly sermon and told them tha came to his attention that one or more married women in Woopwoop was cheating on her husband. A few chuckl were heard from the audience because in Woopwoop every man knew which wife was cheating except his own. T reverend was not amused at all. In fact he was rather insulted. At the heat of the moment he ordered that every that knows for sure that his wife is cheating should shout her at midnight or be smitten by God! (in the morbid original instead of *shout* it was shoot!) The first midnight came and no shouts echoed throughout Woopwoop. Th second midnight came and still no shouts echoed throughout Woopwoop. On the third midnight several shouts w heard. How many shouts were there on the third night? Should the God fearing people of Woopwoop expect mor shouts in the future (assuming no new cheating wives?)

5. What is the minimum size of a party in which you are guaranteed that there are either 3 persons who don't know each other or 3 persons who all know each other?

6. In a country far away a new poison had been discovered. It was lethal, tasteless, odorless, colorless and it came different potencies (all lethal.) Fortunately the antidote to the poison is a stronger poison of the same kind. The k called up his wisest assistants, the wizard and the witch. He asked each of them to go home and for a week work producing the strongest poison they can. Assuming that whatever poison they produced would be the strongest i realm, if ever the king was poisoned he would drink the stronger poison and be surely saved. At the end of a wee both wizard and witch should come back with the strongest poison they could brew in a vial. They would swap vi and sip each other's poison. Then they'd swap vials again and sip the poison once more. Whoever produced the stronger poison would thus win and will not die. The wizard went home shaking. "The witch," he thought, "knows about potions and things. Surely, she'd come up with a stronger poison." So to save his life he devised a trick tha would win him the contest. The witch went home laughing. "The wizard," she thought "knows I am much better him with brews, surely he'd devise a trick to win the contest." So to save her life she devised a counter-trick that would win her the contest. At the end of the one-week period the wizard and the witch came back, each with a v

one hand. As planned, they swapped vials and drank, then swapped again and drank again. Shortly the wizard w lying dead on the floor. What was the wizard's trick and what was the witch's counter-trick?

7. Using a 5 liter jug, a 3 liter jug, and a hose, can you measure 4 liter of water? How about measuring 1 liter?