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Best puzzles brain teasers

This is collection of the best puzzles selected out of +10K brain teasers. Link to solution is under each puzzle. The answer is usually in spoiler which you can unhide by clicking the "Show" button. Some of them might be quite hard, however, you don't need any deep math knowledge. Just basic logic, creativity and patience is needed. Here they come BrainDen Top 10 Puzzles. Enjoy! You've got 27 coins, each of them is 10g, except for 1. The 1 different coin is 9g or 11g (heavier, or lighter by 1g). You should use balance scale that compares what's in the two pans. You can get the answer by just comparing groups of coins. What is the minimum number weighings that can always guarantee to determine the different coin. Separate the coins into 3 stacks of 9 (A, B, C). Weigh stack D against E. If D and E are equal, then F is the odd stack. If D and E are not equal, the lighter or heavier (based on the A, B, C comparison) is the odd stack. You now have three coins (G, H, I). Weigh G and H. If G equals H, then I is the odd and is lighter or heavier (based on the A, B, C comparison) is the odd coin. If you like this type of brain teasers, then surely check out other weighing puzzles. There are many easier ones as well. You are one of 20 prisoners on death row with the execution date set for tomorrow. You will all stand in a row (queue) before the executioner and we will put a hat on your head, either a red or a black one. Of course you will not be able to see the prisoners in front of you with their hats on; you will not be able to see the prisoner in the back will be able to see the 19 prisoners in front of him. The one in front of him will be asked a simple question: WHAT IS THE COLOR OF YOUR HAT? He will be only allowed to answer "BLACK" or "RED". If he says anything else you will quarantee the freedom of some prisoners tomorrow? How many? There is a truth teller (always lies), and one that sometimes answers truthfully and sometimes answers and truthfully and sometimes and truthfully a the men (of your choice). You may ask the same question more than once, but of course it will count towards your total. What are your questions and to whom will you ask them? There are 8 possible combinations of anwers for questions: TTT, TTL, TLT, LTL, LTT, LTL, LTL, LTT, LTL, LTL, LTT, LTL, LT LLT, LLL. Theoretically it's possible if you could figure out a way to get any of the 8 combinations of answers, I thought it was impossible. There is always a possiblity in any solution where Random will exactly mirror T or L for answers. He could always lie or always tell the truth and you can never tell when he is lying or telling the truth. This being given, I thought you can NEVER separate 6 distinct answers to apply to the 6 states, and therefore can never be sure who is who. After a minute though, I saw through my own error in logic. I was always dealing with questions where T and L would give the same answer regardless of the order of the men. I saw that if you can get T and L to give a Yes/NO answer, then you can figure out where R's worthless answers are. The only way I saw to do this is to ask about the order of the men themselves. So: Ask #1 if L is standing on R's right arm (our left if they are facing us). The answer gives you a split in the order they are standing: If YES, then it has to be T telling a lie, or one of R's worthless answers, so: TLR, LTR, or RTL, RLT. If NO, then it has to be T telling a lie, or R and his worthless answers, so: TRL, LTR, or RTL, RLT. If NO, then it has to be T telling a lie, or R and his worthless answers, so: TRL, LTR, or RTL, RLT. If NO, then it has to be T telling a lie, or R and his worthless answers. in the lineup?" If answer 1 was Yes, we ask person 2, if it was no we ask person 3. The answering a lie. So based on who we asked, we now know: Yes, Yes: Has to be LTR, or RTL Yes, No: TLR, RLT No, Yes: LRT, RLT No, No: TRL, RTL Now any question separating the two possibilities works - just make sure you are avoiding R's worthless answers. For example: Yes, Yes - ask #2 if #1 is T. (We know #2 is T and will tell a lie) - Yes = RLT, No = TLR No, Yes - ask #3 if #1 is L. (We know #3 is T and will tell the truth) - Yes = LTR, No = TLR No, Yes - ask #3 if #1 is L. (We know #3 is T and will tell the truth) - Yes = LTR, No = TLR No, Yes - ask #3 if #1 is L. (We know #3 is T and will tell the truth) - Yes = LTR, No = TLR No, Yes - ask #3 if #1 is L. (We know #3 is T and will tell the truth) - Yes = LTR, No = TLR No, Yes - ask #3 if #1 is L. (We know #3 is T and will tell the truth) - Yes = LTR, No = TLR No, Yes - ask #3 if #1 is L. (We know #3 is T and will tell the truth) - Yes = LTR, No = TLR No, Yes - ask #3 if #1 is L. (We know #3 is T and will tell the truth) - Yes = LTR, No = TLR No, Yes - ask #3 if #1 is L. (We know #3 is T and will tell the truth) - Yes = LTR, No = TLR No, Yes - ask #3 if #1 is L. (We know #3 is T and will tell the truth) - Yes = LTR, No = TLR No, Yes - ask #3 if #1 is L. (We know #3 is T and will tell the truth) - Yes = LTR, No = TLR No, Yes - ask #3 if #1 is L. (We know #3 is T and will tell the truth) - Yes = LTR, No = TLR No, Yes - ask #3 if #1 is L. (We know #3 is T and will tell the truth) - Yes = LTR, No = TLR No, Yes - ask #3 if #1 is L. (We know #3 is T and will tell the truth) - Yes = LTR, No = TLR No, Yes - ask #3 if #1 is L. (We know #3 is T and will tell the truth) - Yes = LTR, No = TLR No, Yes - ask #3 if #1 is L. (We know #3 is T and will tell the truth) - Yes = LTR, No = TLR No, Yes - ask #3 if #1 is L. (We know #3 is T and will tell the truth) - Yes = LTR, No = TLR No, Yes - ask #3 if #1 is L. (We know #3 is T and will tell the truth) - Yes = TLR No, Yes - ask #3 if #1 is L. (We know #3 is T and will tell the truth) - Yes = TLR No, Yes - ask #3 if #1 is L. (We know #3 is T and will tell the truth) - Yes - ask #3 if #1 is L. (We know #3 is T and will tell the truth) - Yes - ask #3 if #1 is L. (We know #3 is T and will truth) - Yes = LRT, No = RLT No, No, - ask #3 if #1 is T. (We know #3 is L and will tell a lie) - Yes = RTL, No = TRL So we have the order and know who is who. If you like this type of brain teasers, then surely check out other logic problems. There are many easier ones as well. Three boxes are all labeled incorrectly, and you must get the labels right. The labels on the boxes read as follows: Box 1 nails Box 2 screws Box 3 nails and screws To gain the information you need to move the labels to the correct boxes, you may remove a single item from one of the boxes. You may not look into the boxes, you may remove a single item from one of the boxes, you may remove a single item from one of the boxes. You may not look into the boxes, you may remove a single item from one of the boxes. You may not look into the boxes, you may remove a single item from one of the boxes. You may not look into the boxes, you may remove a single item from one of the boxes. You may not look into the boxes, you may remove a single item from one of the boxes. You may not look into the boxes into the boxes into the boxes into the boxes. You may not look into the boxes Beanchi are a married couple (dont ask me who he is and who she is)! They have two kids, one of them is a girl. Assume safely that the probability of each gender is 1/2. What is the probability of each gender is 1/2. What is the probability that the other kid is also a girl? Hint: It is not 1/2 as you would first think. You are on a game show and there are three doors. The presenter tells you that behind one of doors there is a car and behind the other two are goats. If you pick the car you win it. After you have picked a door the presenter opens a different door with a goat behind it, he then gives you the chance to change what door you open. What should you do? Hint: It is not 1/2 as you would first think. Jennifer should switch. Contrary to what may seem intuitive, switching actually doubles her chances of winning the car. This problem is just a re-wording of what is known as the Monty Hall Problem. The key to understanding it is that the host known of all the possible scenarios that Jennifer faces and why Jennifer should switch: Door #2 has goat B (probability 1:3) - MB shows goat A behind Door #1 (1:1) - switching wins the car - total chances (1:1 x 1:1 = 1:3) Door #2 has the car (probability 1:3) - MB shows goat A behind Door #1 (1:2) - goat B is behind Door #3 (1:1) - not switching wins the car - total chances (1:3 x 1:2 x 1:1 = 1:6) Door #2 has the car (probability 1:3) - MB shows goat B behind Door #3 (1:1) - not switching will get Jennifer the car, and only (1:6 + 1:6 = 1:3) chances she would get the car by not switching. She should switch. A more general presentation of the reasoning is this: At the start of the game, there is a 2:3 chance that Jennifer will pick a door with a goat behind it. If she does, the host will reveal the car. There is a 1:3 chance she will pick the car. There is a 1:3 chance she will pick a door with a goat behind it. If she does, the host will reveal the car. There is a 1:3 chance she will pick a door with a goat behind it. host will then reveal a goat. Switching would win Jennifer a good supply of Ch?vre (and the disdain of her neighbours). So, 2 out of 3 times switching gets the car. Simple - unintuitive, but simple. Why does the host's knowledge change the odds. Because he does not randomly select a door to open - he always opens a door with a goat. By doing this he reduced the possible scenarios for Jennifer to the four listed above. If he randomly picked, then Jenny's chances, if the show progressed as presented, would be 50/50. However, there would also be a 1:3 chance that MB would be sacked and re-runs of McGyver How did it happen? That might be easy but the harder part is that there are actually an infinite number of answers for where the man could have started from. Explain. A 6-inch hole is drilled through a sphere. What is the volume of the remaining portion of the sphere? Clarifications: [1] the hole is a circular cylinder of empty space whose axis passes through the center of the sphere - just as a drill would make if you aimed the center of the drill at the center of the sphere and made sure you drilled all the way through. [2] the length of the hole is drilled. picture the inside surface as viewed from inside the hole and measure the length of that surface in the direction of the axis of the drill. in this sense, you could for example drill a 6-inch hole through the earth left. but if you could set it on a table [a big table] it would be 6 inches high. You of course could not drill a 6-inch hole through a sphere whose diameter was less than 6 inches. This fact leads to the logical answer. The hard way involves calculus. The easy way uses logic. I just found a number with an interesting property; When I divide it by 3, the remainder is 2. When I divide it by 4, the remainder is 3. When I divide it by 4, the remainder is 3. When I divide it by 3, the remainder is 3. When I divide it by 4, the rema 5, the remainder is 4. When I divide it by 6, the remainder is 5. When I divide it by 7, the remainder is 6. When I divide it by 8, the remainder is 7. When I divide it by 8, the remainder is 7. When I divide it by 8, the remainder is 7. When I divide it by 8, the remainder is 7. When I divide it by 8, the remainder is 8. When I divide it by 8, the remainder is 9. It's not a small number, but it's not really big, either. Find the smallest number with such property. Sir, I bear a rhyme excelling In mystic force and magic spelling Celestial sprites elucidate All my own striving can't relate Oldies but Goodies: Right now Mum is 21 years older than she. Where is Daddy? There is a room with no windows, doors, or any sort of opening, the walls are solid steel 10 feet thick, and you are trapped inside, left only with a saw and a table. How do you escape? (more variations in our Brain Teasers Forums) As I was going to Saint Ives, I crossed the path of seven wives, Every sack had seven kittens, Kittens, cats, sacks, wives, How many were going to Saint Ives? 26 L of the A 7 D of the W 7 W of the W 12 S of the Z 66 B of the E 52 C in a P (W J) 13 S in the U S F 18 H on a G C 39 B of the O T 5 T on a F 90 D in a R A 3 B M (S H T R) 32 is the T in D F at which W F 15 P in a R T 3 W on a T 100 C in a D 11 P in a F (S) T 12 M in a Y 13 is U F S 8 T on an O 29 D in F in a L Y 27 B in the N T 365 D in a Y 13 L in a B D 52 W in a Y 13 is U F S 8 T on an O 29 D in F in a L Y 27 B in the N T 365 D in a Y 13 L in a B D 52 W in a W 13 L in a B D 52 W in a W 13 L in a B D 52 W in a W 13 L in a B D 52 W in a W 13 L in a B D 52 W in a W 13 L in a B D 52 W in a W 13 L in a B D 52 W in a W 13 L in a B D 52 W in a W 13 L in a B D 52 W in a W 13 L in a B D 52 W in a W 13 L in a B D 52 W in a W 13 L in a B D 52 W in a W 13 L 9 L of a C 60 M in an H 23 P of C in the H B 64 S on a C B 9 P in S A 6 B to an O in C 1000 Y in a M 15 M on a D M C Check out more Famous Paradoxes >>

