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| Problem | Solution |
| <https://media.geeksforgeeks.org/wp-content/uploads/20191209124250/Burning-Rope-Puzzle.png>   How do we measure forty-five minutes using two identical wires, each of which takes an hour to burn? We have matchsticks with us. The wires burn non-uniformly. So, for example, the two halves of wire might burn in 10 minutes and 50 minutes respectively | If we light a stick, it takes 60 minutes to burn completely. What if we light the stick from both sides? It will take exactly half the original time, i.e. 30 minutes to burn completely. |
| Alok has three daughters. His friend Shyam wants to know the ages of his daughters. Alok gives him first hint.  1) The product of their ages is 72.  Shyam says this is not enough information Alok gives him a second hint.  2) The sum of their ages is equal to my house number.  Shyam goes out and look at the house number and tells “I still do not have enough information to determine the ages”.  Alok admits that Shyam cannot guess and gives him the third hint  3) The oldest of the girls likes strawberry ice-cream.  Shyam can guess after the third hint. Can you guess what are the ages of three daughters? | Product of ages is 72  Below are all possibilities to get 72 from product of three different ages:  2) Sum of the ages is given  2 + 6 + 6 = 14  3 + 3 + 8 = 14  All sums are unique except 14. So, the age sum must have been 14, otherwise Shyam would have guessed the ages from hint 2 only.  So, we have two possible combination to get sum 14  3) Alok has an oldest girl (not two!!).  So, the ages must be 3, 3 and 8. |
| There are 25 horses among which you need to find out the fastest 3 horses. You can conduct race among at most 5 to find out their relative speed. At no point you can find out the actual speed of the horse in a race. Find out how many races are required to get the top 3 horses. | Make group of 5 horses and run 5 races. Suppose five groups are a, b, c, d, e and next alphabet is its individual rank in this group (of 5 horses). for e.g. d3 means horse in group d and has rank 3rd in his group. [ 5 RACES DONE]  a1 b1 c1 d1 e1  a2 b2 c2 d2 e2  a3 b3 c3 d3 e3  a4 b4 c4 d4 e4  a5 b5 c5 d5 e5  Now make a race of (a1, b1, c1, d1, e1). [RACE 6 DONE] suppose result is a1>b1>c1>d1>e1  which implies a1 must be FIRST.  b1 and c1 MAY BE (but not must be) 2nd and 3rd.  FOR II position, horse will be either b1 or a2  (we must find top 3 horse therefore we choose horses b1, b2, a2, a3, c1 do racing among them [RACE 7 DONE].  The only possibilities are:  c1 may be third  b1 may be second or third  b2 may be third  a2 may be second or third  a3 may be third  The result will give ANSWER. suppose result is a2>a3>b1>c1>b2  then answer is a1, a2, a3, b1, c1.  HENCE ANSWER is 7 RACES |
| There are two empty bowls in a room. You have 50 white balls and 50 black balls. After you place the balls in the bowls, a random ball will be picked from a random bowl. Distribute the balls (all of them) into the bowls to maximize the chance of picking a white ball. | First, let us assume that we divided the balls into jars equally so each jar will contain 50 balls.  So, the probability of selecting a white ball will be=probability of selecting the first jar\*probability of white ball in the first jar + probability of selecting the second jar\*probability of white ball in the second jar  = (1/2) \*(0/50) +(1/2) \*(50/50) =0.5  Since we must maximize the probability so we will increase the probability of white ball in the first jar and keep the second probability same mean equal to 1  so, we add 49 white balls with 50 black balls in the first jar and only one white ball in the second jar  so, the probability will be now=  (1/2) \*(49/99) +(1/2) \*(1/1) =0.747  Therefore, probability of getting white ball becomes 1/2\*1 + 1/2\*49/99 which is approximately 3/4. |
| A person has 3000 bananas and a camel. The person wants to transport maximum number of bananas to a destination which is 1000 KMs away, using only the camel as a mode of transportation. The camel cannot carry more than 1000 bananas at a time and eats a banana every km it travels. What is the maximum number of bananas that can be transferred to the destination using only camel (no other mode of transportation is allowed)? | At first look, it seems that the person cannot transfer any banana as the camel can carry at most 1000 bananas and going to eat all bananas when destination is reached.  The trick is to transfer bananas to an intermediate point, then transfer all bananas from the intermediate point to destination.  So, we must take an approach that the Camel drops the bananas in between and then returns to point A to pick up bananas again.  A---------------------------------------->B  -----> ------> -------->  <----- ------>    Where, length of P1 will be 200 Km.  Since there are 3000 bananas and the Camel can only carry 1000 bananas, he will have to make 3 trips to carry them all to any point in between.  When bananas are reduced to 2000 then the Camel can shift them to another point in 2 trips and when the number of bananas left are <= 1000, then he should not return and only move forward. The merchant has 533 bananas to sell at point B. |
| There are 5 pirates, they must decide how to distribute 100 gold coins among them. The pirates have seniority levels, the senior-most is A, then B, then C, then D, and finally the junior-most is E.  Rules of distribution are  The most senior pirate proposes a distribution of coins.  All pirates vote on whether to accept the distribution.  If the distribution is accepted, the coins are disbursed and the game ends.  If not, the proposer is thrown and dies, and the next most senior pirate makes a new proposal to begin the system again.  In case of a tie vote the proposer can has the casting vote  Rules every pirate follows.  Every pirate wants to survive  Given survival, each pirate wants to maximize the number of gold coins he receives. | The answer is 98 which is not intuitive.  A use below facts to get 98.  Consider the situation when A, B and C die, only D and E are left. E knows that he will not get anything (D is senior and will make a distribution of (100, 0). So, E would be finding with anything greater than 0.  Consider the situation when A and B die, C, D and E are left. D knows that he will not get anything (C will make a distribution of (99, 0, 1) and E will vote in favor of C).  Consider the situation when A dies. B, C, D and E are left. To survive, B only needs to give 1 coin to D. So, distribution is (99, 0, 1, 0)  Similarly, A knows about point 3, so he just needs to give 1 coin to C and 1 coin to E to get them in favor. So, distribution is (98, 0, 1, 0, 1).  The idea is since what B will distribute if A dies (B would always want A to die). If A gives more coins to 2 people than B would have given, A wins. |
| There are 3 ants sitting on three corners of a triangle. All ants randomly pick a direction and start moving along edge of the triangle. What is the probability that any two ants collide? | Since every ant has two choices (pick either of two edges going through the corner on which ant is initially sitting), there are total 2^3 possibilities.  Out of 2^3 possibilities, only 2 don’t cause collision. So, the probability of collision is 6/8 and the probability of non-collision is 2/8. |
| How can you represent days of month using two 6-sided dice? You can write one number on each face of the dice from 0 to 9 and you must represent days from 1 to 31, for example for 1, one dice should show 0 and another should show 1, similarly for 29 one dice should show 2 and another should show 9. | Dice 1: 0 1 2 3 5 7  Dice 2: 0 1 2 4 6 8 |
| Given two hourglasses of 4 minutes and 7 minutes, the task is to measure 9 minutes. | 0 min: start together, 4 min: Flip 4, 7 min: Flip 7, 8min: Flip 7 |
| 2 Eggs and 100 Floors | X = 13.65 ~ 14 -> x to x-1 |
| A Geek was in a car with a helium balloon on a string that is tied to the floor. The windows are closed. When she steps on the accelerator, what happens to the balloon: does it move forward, move backwards, or stay put? | Moves in direction of car, since, He is lighter than air |
| 3 people hat game – B and R with 50% probability | 75% |
| One cardboard rectangle and any smaller rectangle cut out, divide bigger rectangle into 2 equal parts | Any line passing through the center of a rectangle divides the rectangle in two equal pieces. |
| Cheryl’s problem | 16th July |
| Priests with black spots | N priest will leave on the nth day |
| 7, 11, 17 | 37 |
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