

# **TestFunda** **Puzzles-of-the-week**

**Book 3**



***WE ALL FIT LIKE PIECES OF A PUZZLE. EVERYBODY'S INPUT AND THEIR JOURNEYS AND WHERE THEY'VE BEEN HELP PUT THAT PUZZLE TOGETHER.***

***- MELODY THORNTONZZ***

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# PREFACE

*For the past couple of years, CAT and other MBA entrance exams have shown a trend towards questions testing a student's ability to apply Mathematical Principles and Analytical Reasoning to solve problems. The unpredictable nature of CAT has ensured that most students are never fully prepared to ace the exam. This is because students limit their preparation to just the learning and practice of core concepts of Mathematics, Verbal Ability and Data Interpretation & Logical Reasoning. However, to bell the CAT, divergent thinking is required which is why experts also recommend solving an eclectic mix of Puzzles, Crosswords, Riddles and Brain Teasers. These enhance the problem-solving skills of CAT aspirants and encourage them to think out-of-the-box.*

*We, at TestFunda.com, feel that solving puzzles not only helps sharpen one's logical acumen, but also gives immense pleasure and satisfaction. The puzzles in this book will give students that extra edge and confidence needed to be ready for any surprise that CAT might throw their way.*

*We are sure that our readers will benefit greatly from these books. They shall provide a much-needed break from long study hours as well as high-quality cerebral recreation.*

## Puzzle #01: Who ate the Quesadilla?

Last Friday, five friends went to Hotel Einsteinia for supper. Each one of them sat alone on a different table and all the tables were placed in a straight line from left to right. Each table adorned by a different flower. All five of them belonged to different professions and ordered different dishes, beverages and desserts from the others.

1. The Lawyer sat on the table that bore Lilies.
2. The Programmer ordered the Garden salad.
3. The Engineer drank Cocoa Cola.
4. The table that bore the Carnations was to the left of the table that bore the Orchids.
5. The person sitting at the table with the Carnations drank Iced Tea.
6. The person who ordered Pista Kulfi for dessert also ordered Butter Chicken for supper.
7. The one sitting on the table with the Yellow Roses ordered Apple Pie for Dessert.
8. The one sitting at the table right in the centre drank Lassi.
9. The doctor sat at the first table.
10. The one who ordered Lemon Tart for dessert sat on the table next to the one who ordered Lasagne for supper.
11. The man who ordered Sushi & Sashimi for supper sat next to the one who ordered Apple Pie for dessert.
12. The one who ordered Tiramisu for dessert drank Orange Juice.
13. The Author had Caramel Custard for dessert.
14. The doctor sat at the table next to the one with the Pink Roses.
15. The man who had the Lemon Tart had a neighbor who drank Lemonade.

Based on this, you need to figure out who ordered the Quesadillas for supper.



## Puzzle #02: The Task of the Three Doors

King Albert, the King of Einstenia decided to marry off his second daughter, Elvira to Isaac, the Prince of Newtonia. However, he wanted to test whether Isaac was worthy of Elvira or not. So, he locked him in a room with 6 doors - P, Q, R, S, T and U. Three of these rooms were labelled as entrances and three were labelled as exits. King Albert entered the room through door P and his Chief Minister entered through door U. King Albert told him that in order to pass the test he needed to pass through every door, but just once and that too in a particular order such that the exit is used as an exit only and an entrance only as an entrance. Also, door P is followed by door Q or door T, door Q by door R or door T, door R by door S or door U, door S by door P or door U, door T by door Q or door S and door U by door R or S. Saying so, King Albert and his Chief Minister exited through door Q and unlocked all the doors. In which order should Prince Isaac pass through the doors?



## Puzzle #03: Troubled Inheritance

In the kingdom of Einsteinia, a landlord died of a conspicuous disease leaving behind a property of 1000 gold coins. He was survived by 6 sons. In the kingdom, there was a rule that after the death of the elderly, the money is distributed to the descendents by the following rule.

The eldest of the siblings proposes a plan to distribute the coins among them. All of them vote in favor of or against the plan. If the proposer gets more than 50% support (including his vote) his plan gets accepted and the coins are distributed according to the plan. Otherwise, he does not get any coin. The voting process is then followed with the remaining five and the next eldest one proposes a plan and so on. If the process continues till the youngest sibling is left, he would walk away with all the coins.

The siblings are not expected to collude and have some different plan as there is a danger that if discovered they might be debarred from claiming a stake in the property and might face some stringent punishment.

Whose plan would get approved and what would be the distribution of coins.



## Puzzle #04: The Secret Code

Agent Nikita telegraphed a secret code word to her boss as part of a dubious mission which could destroy the world. The code is an acronym for something that only she and her boss know of. In order that no one finds out the code word, she sent out five words, out of which only one is the correct code word. Along with the five words, she also telegraphed a clue which helps reveal the word. The telegraphed message was as follows:

“RUE IFO AUD DIE FAR

Any character of the codeword reveals the exact number of vowels that are present in the code word.”

You have to save the day by cracking the code and determining the code word. Remember, the stakes are high.



## Puzzle #05: Unfair Distribution

Sanaa and Pallavi had a row over the distribution of a box of chocolates that was given to them by their friend, Danish. Pallavi yelled, "You haven't distributed the chocolates fairly! You have kept thrice the number of chocolates that I have, for yourself. I demand a re-distribution!" To this, Sanaa calmly responded by giving Pallavi one chocolate for each year of her age, in addition to what she already had and asked, "Are you happy now?" "This is still unfair! Now, I have half as many chocolates as you do", screamed Pallavi. Sanaa lost her cool and yelled back, "Listen, I think I've given you more than enough. After all, I'm twice your age. You have to obey me." Saying this, she stormed out of the room, leaving all the chocolates, including her own, on the table. After she left, Pallavi took her own chocolates and stole chocolates from Sanaa's pile equal to Sanaa's age and ran away. Sanaa later came and collected her chocolates that were left on the table. Who has more chocolates: Sanaa or Pallavi?



## Puzzle #06: Who is the captain?

The King of Einsteinia ordered the home cricket team to have their photograph clicked. As per his orders, all 11 of them lined up in a perfectly straight line to have their photograph taken. The captain stood at the centre of the line-up. Using the following clues, identify the captain:

1. Satish and Mohan stood to the captain's right.
2. There were two players in between Nikhil and Sumeet.
3. Seven players stood between Akram and John.
4. Raj stood to Vaibhav's right.
5. Nikhil stood between Ajay and Pankaj.
6. Rohit and Pankaj stood to the captain's left.
7. There were six players standing between Mohan and Nikhil.
8. Two players stood between Nikhil and Rohit.

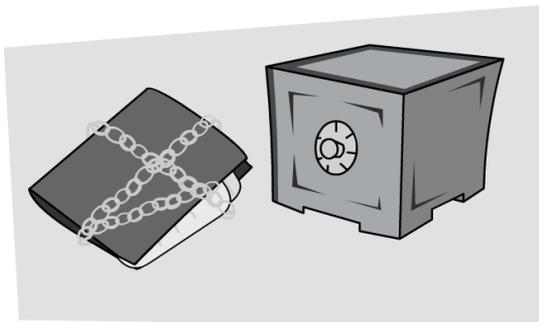


## Puzzle #07: The Secret Code - Take Two

Agent Nikita's boss sent her to fetch some "Top-secret" documents, which, in his opinion, contain information which, if revealed, could be catastrophic for the world. These documents were to be fetched from a vault in a famous bank. However, he did not tell her the vault number as he did not want anyone to know the vault number for fear of it being stolen. He asked her to go meet the bank cashier who would guide her further in her quest. When she reached the bank, the cashier handed her a note and a key and told her that the smallest number to satisfy the conditions would reveal the vault number. In the note, there were 10 clues:

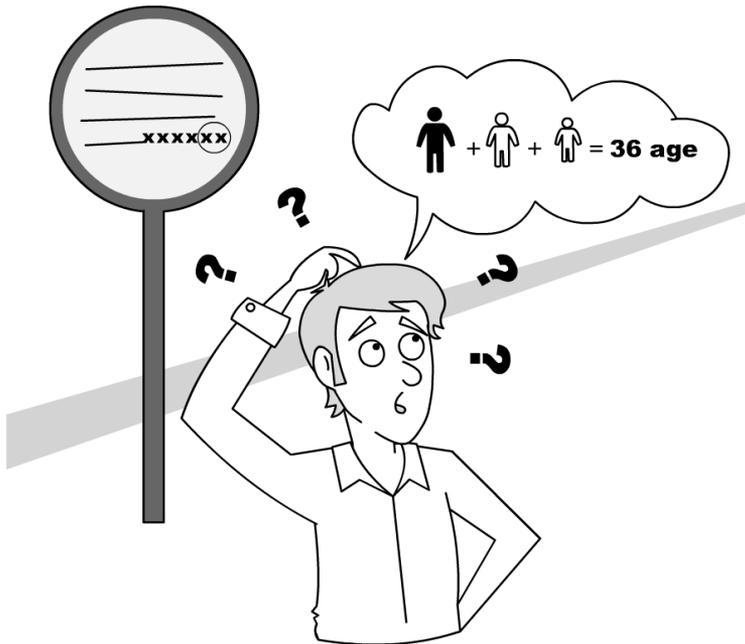
1. Among clues 9 and 10, at least 1 is true.
2. This clue is either the first false clue or the first true clue.
3. There exist three consecutive false clues.
4. One of the divisors of this number is the difference between the numbers of the last true clue and the first true clue.
5. The number to be found is equal to the sum of the numbers of the true clues.
6. This clue isn't the last true clue.
7. The number to be found is divisible by the number of each true clue.
8. The percentage of true clues denotes the number to be found.
9. The sum of the numbers of the true clues is less than the number of divisors that the number you seek has, (apart from itself and 1, of course).
10. Three consecutive true clues do not exist.

Help Agent Nikita find the vault and rush back to her boss with the documents.



## Puzzle #08: The son with the black shirt

Manish was on his way to an interview. On the way, he encountered his long lost cousin, Vijay, whom he hadn't met in more than a decade. They started catching up on lost time. Manish learned that Vijay had 3 sons. When he asked about their ages, Vijay replied, "You're going for an interview, right? Consider this a trial question. Figure out their ages from this: The product of the ages of my three sons is 36." To this, Manish grumbled that he needed more information. Vijay, then, pointed to a sign board across the street that displayed the address of the area and said that the sum of the ages of his three children was equal to the last two digits of the pin code of that area. Yet, Manish demanded more information. Finally, Vijay said, "My eldest son wore a black shirt today. This is all I can tell you." What were the ages of the three children?



## Puzzle #09: Lying Layla

Layla was accustomed to lying to such an extent that she spoke the truth only on one day in a week. She, once, made one statement a day on three consecutive days.

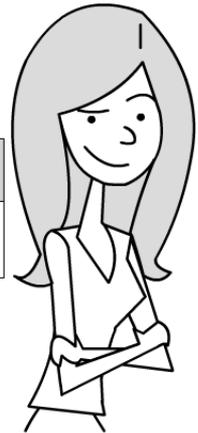
Day 1: "I don't speak the truth on Mondays and Tuesdays."

Day 2: "It's either Thursday, Saturday or Sunday today."

Day 3: "I blatantly tell lies on Fridays and Saturdays."

From these three statements, deduce the day of the week when Layla actually speaks the truth.

Mon	Tue	Wed	Thu	Fri	Sat	Sun
?	?	?	?	?	?	?

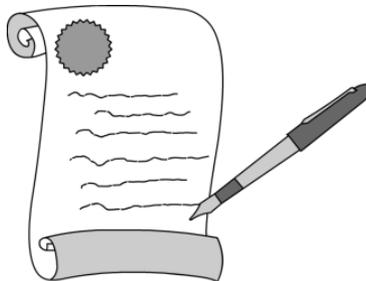


## Puzzle #10: The Confused Will

Mr. Rebeiro, a prominent garment factory owner, passed away due to a prolonged heart disease. His Attorney, Mr. Smith, arrived at his funeral to offer his condolences to the aggrieved family and also brought along with him Mr. Rebeiro's will. In his will, he distributed his Ancestral Property, Family Jewellery, Mercedes Benz, Garment Factory among his four children - Jeniffer, Janice, Robin and Dominic, one asset for each one, according to the following conditions:

1. Jeniffer will not get the Family Jewellery unless Janice gets the Ancestral Property and Dominic gets the Mercedes Benz.
2. Janice will not get the Mercedes Benz unless Robin gets the Garment Factory and Jeniffer gets the Ancestral Property.
3. Dominic will not get the Garment Factory unless Jeniffer gets the Family Jewellery and Janice gets the Ancestral Property.
4. Jeniffer will not get the Ancestral Property unless Robin gets the Garment Factory and Dominic gets the Mercedes Benz.
5. Janice will not get the Ancestral Property unless Jeniffer gets the Garment Factory and Dominic gets the Mercedes Benz.
6. Jeniffer will not get the Garment Factory unless Janice gets the Family Jewellery and Robin gets the Ancestral Property.
7. Robin will not get the Garment Factory unless Janice gets the Family Jewellery and Jeniffer gets the Mercedes Benz.
8. Jeniffer will not get the Mercedes Benz unless Janice gets the Garment Factory and Dominic gets the Family Jewellery.
9. Robin will not get the Ancestral Property unless Dominic gets the Family Jewellery.

The four children were perplexed and couldn't understand the will. You need to help them by identifying correctly who eventually inherits what.



## Puzzle #11: The Jumbled Cards

Dr. Dan, an Industrial Psychologist, completed his education recently from Harvard University. When he was a Student Psychologist, under the supervision of his professors, he had to administer a test to four of his friends.

He gave one of four opaque envelopes containing three playing cards each, to each of his friends: Manish, Joel, Amit, and Sanaa. Each card was either a King or a Queen. The cards were taken from multiple packs and the suits to which they belonged were irrelevant. The number of Queens was different in each envelope.

On each envelope, he mentioned its contents. However, he jumbled up the envelopes and, as it turned out, he had labeled the contents of each envelope incorrectly.

Dan asked each of them to step forward and remove two cards from the envelope, read what was written on the envelope, and then tell him whether the third card was a King or Queen.

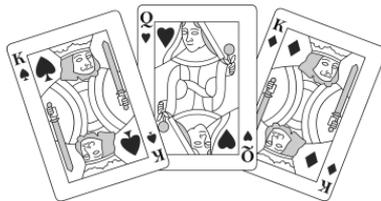
Manish stepped forward first; took two Queens out of his envelope and then read what was written on it. He was immediately able to deduce what the third card was.

Joel removed 1 Queen and 1 King from his envelope. After reading what was written on the envelope, he easily managed to tell Dan what the remaining card was.

Amit had 2 Kings in his envelope. He then looked at what was written on his envelope, but could not decipher what the third card was.

Sanaa, without even looking at her cards or her envelope, correctly identified all three cards correctly.

You need to deduce what cards each of the friends had in their envelopes and what was written on each envelope.



## Puzzle #12: Prince of Parzania - The Three Witches

Beautiful Princess Laiba was abducted by an evil warlord, Jaffer, who took her with him to his kingdom, Parzania, where he intended to marry her. Her beau, Prince Atif, immediately set off on his camel to Parzania in pursuit of his would-be bride. Parzania was a beautiful region, adorned by magical trees and creatures, such that Atif had never seen before. He stepped off his camel and decided to have a look around the place. As he turned a corner, three beautiful, yet eerie, women (a blonde, a brunette and a red-head) stopped him in his path.

The red-head stepped forward and said, "How are you feeling, Prince Atif? How was your journey?"

"H-H-How d-do u know who I am?" he stuttered.

They all laughed out aloud. Said the red-head, "We know everything about you, Prince. We can guide you in your quest for princess Laiba. But you need to prove your worth to us by answering a question. If you answer it correctly, we'll give you a magical map of Parzania which will help you locate Princess Laiba easily. If you can't answer the question, you will be sent back to your country.

We - Roohina, Alvira and Rifat - are the witches of Parzania. We all have our own pets which are either chimeras or dragons.

1. Roohina has at least one dragon and thrice as many chimeras.
2. Rifat has at least one dragon and three more chimeras than dragons.
3. Alvira has at least one dragon and twice as many chimeras as dragons.
4. We, together, have less than 25 pets. If you find out how many pets we have together, you will only be able to tell how many pets I have.

Now, tell me, Prince Atif, Who am I?"

Help Atif answer the question and keep his hopes of finding Princess Laiba alive.

## Puzzle #13: Blast from the Past

Professor Patrick invented a time machine. While testing it, he inadvertently reached the past. However, thankfully, he carried, in his pocket, a device that could return him to his present time. The travel to the past took its toll on him and he lost consciousness. On regaining consciousness, he found himself in an ancient laboratory, surrounded by strange-looking people. One of them seized the device from Professor Patrick's pocket. Professor Patrick tried to snatch it back but the man struck him down and let out a high-pitched, shrill laugh. He said,

"Welcome, Stranger, to the not-so-welcome land of Entropia. I am Dr. David, the scientific plunderer from a nearby town, Enthalpia. I steal theories from other scientists and publish them as my own. Don't worry. I make sure that even their bones aren't found. (He let out yet another shrill laugh!)"

It seems that this device is precious to you. I'll let you have it back if you manage to answer my question.

The people at Entropia are divided into two groups: the Newtons and the Oldtons. The Newtons always tell the truth while the Oldtons always lie.

Here are four inhabitants from Entropia: Alex, Barney, Charlie and Darren.

(Turning to Alex) Alex, is Barney a Newton or an Oldton?"

Alex replied, "An Oldton, sire."

"All right Barney, What about Charlie? Is he a Newton or an Oldton?"

"Charlie is definitely an Oldton."

"Hmmm. What about Darren, Charlie?"

"Darren is an Oldton, Sir."

"Haha!! And, finally, Darren, if I ask Alex about Charlie, what will he say?"

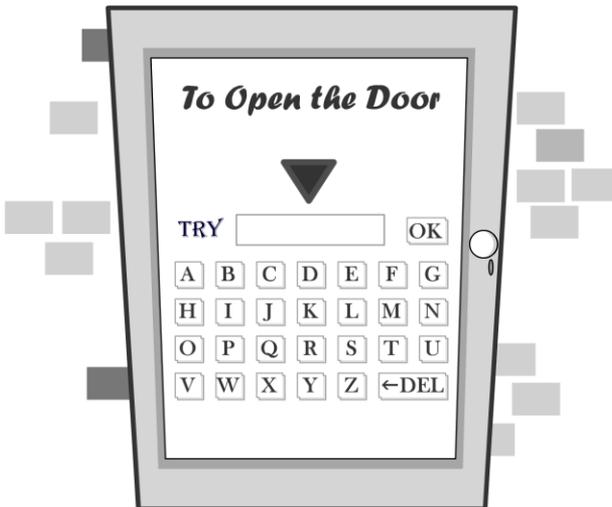
"He will say that Charlie is an Oldton."

"Very well. Ok, Mr. Stranger, Now answer my question: Is Darren a Newton or an Oldton? If you answer correctly, I shall let you go scot-free. Lest you will have to explain the secret of this device to me and prepare for a gruesome death. Muahahahaha!!"

Help Professor Patrick solve this riddle and return safely to the present time

## Puzzle #14: The Elusive Password

After successfully identifying the red-haired witch as Alvira, Prince Atif felt he had earned himself the magical map of Parzania ([Prince of Parzania - The Three Witches](#)). But, the witches had other plans on their mind. Roohina, the Brunette, created a kind of a chasm in which appeared the magical map of Parzania. She asked Prince Atif to seize his prize by stepping into the chasm. When he did, he vanished, map-in-hand, into thin air and reappeared in a dimly-lit, dingy dungeon. A tap on the back startled him. He hadn't, until then, realised that he had company. An old, frail-looking, withered man stood beside him. He introduced himself as Armaan, the prince of a far-away land, who had been trapped there for several years by the trickery of the same evil witches. There was a way to escape the dungeon and that was to unlock the door by typing a certain 5-letter password. He couldn't figure it out himself. He took Prince Atif to the door and showed him the inscription on the door accompanied by the device that bore the buttons that were to be used to key in the password.



Read the inscription and 'try' to deduce the password to unlock the door and help Prince Atif continue in his quest for Princess Laiba.

## Puzzle #15: And, the winner is....?

500 couples belonging to different strata of society were invited to participate in a new reality dance show called 'Dance Baliye', where not only would they stand a chance to win a prize money of Rs. 50 lacs but also they would be entitled to an item number in a big banner movie. Citing various reasons, a number of couples backed out. However, a certain number of participants, which was greater than 50, did turn up for the auditions. Each couple was assigned a different number, a successive integral number, called "Jodi Number", starting from 1. After rigorous dance sessions and extensive training, the judges finally managed to choose the best dancing couple.

When announcing the contestant number of the winning couple, one of the esteemed jury, Miss Priyanka, decided to puzzle the audience. She announced on-stage that the Jodi Number of the winning couple was such that the sum of the Jodi numbers that were less than that of the winning couple was equal to the sum of the Jodi numbers that were greater than their Jodi Number. The audience member to answer this question would get a chance to shake a leg with the winning couple in their item number along with a prize amount of Rs. 50,000. Mrs. Jessika Bedi, an avid follower of the show, wanted to be on TV since childhood. This is her opportunity to fulfil her dream. However, she isn't good at math. Try to help fulfil her dream by providing a solution with a detailed explanation.



# Dance Baliye

# ANSWERS

## Puzzle #01: Who ate the Quesadilla?

Table No.	Profession	Flowers	Supper	Beverage	Dessert
1	Doctor	Yellow Roses	Lasagne	Lemonade	Apple Pie
2	Engineer	Pink Roses	Sushi & Sashimi	Cocoa Cola	Lemon Tart
3	Lawyer	Lilies	Butter Chicken	Lassi	Pista Kulfi
4	Author	Carnations	Quesadilla	Iced Tea	Caramel Custard
5	Programmer	Orchids	Garden Salad	Orange Juice	Tiramisu

Clues 8 & 9 allow us to fill in cells directly.

Clue 14 places the table with the Pink Roses next to the Doctor, and the tables with the Carnations and Orchids as 4 and 5(not 3 and 4 as clue 5 has the person sitting at the table with the carnations drinking coffee).

Clue 1 tells us that the Lawyer sat at the table with the Pink Roses which rules out all but 3. By the process of elimination, the table with the Yellow Roses is the first one.

Clue 11 places the Sushi & Sashimi next to the table where the Apple Pie was being eaten. The person who drank Orange Juice also had Tiramisu. The Engineer drank Cocoa Cola while Lassi and Iced Tea were consumed on tables 3 and 4. So, the Doctor who had the Apple Pie drank Lemonade. And, the Lemonade drinker's neighbor had Lemon Tart for dessert. This left the Cocoa Cola and the Orange Juice. We know that the one who drank Orange Juice had Tiramisu. We can, thus, conclude that table 2 had the Cocoa Cola drinking Engineer.

The last of the beverages, the Orange Juice, can be placed on table 5 along with the Tiramisu. The Caramel custard can be placed with table 4. This leaves the Programmer who ate the Garden Salad for table 5. Also, the Butter Chicken and Pista Kulfi consumer for table 3.

Since, the person who ate Lasagne lived next to the person who ate, the Lemon Tart, only one slot remains. And that is on table 4 where the Author is seated. So, it is the Author who ate the Quesadilla.

[Discuss](#) the solution with TestFunda users.

## Puzzle #02: The Task of the Three Doors

The correct order is R U S P Q T

It is given that the Chief Minister entered through door U and King Albert entered through door P. It means that door P and door U are Entrances. Also, they both left through door Q. Hence, door Q is an Exit.

It is obvious that exits and entrances should alternate each other. Also, we know two entrances.

Let the third unknown entrance be A. Thus, there are 6 possible combinations.

Let X indicate an exit.

The six possible combinations are:

- (1) X A X P X U
- (2) X A X U X P
- (3) X U X A X P
- (4) X U X P X A
- (5) X P X A X U
- (6) X P X U X A

As door P must be followed by door Q or T and none of them lead to door U, (1) and (6) are not possible.

Also, door S must be the Exit as only door S leads to door P and door P is the Entrance.

- (2) X A X U S P
- (3) X U X A S P
- (4) X U S P X A
- (5) S P X A X U

Only door S and door R lead to the door U. But since door S is used, door R must be the Exit and precede door U. Also, the third Exit is Q and 'A' must be door T.

- (2) Q T R U S P
- (3) R U Q T S P
- (4) R U S P Q T
- (5) S P R T Q U

But only door Q leads to the door R and both are Exits. So, (2) and (5) are not possible.

Also, door U does not lead to door Q, so we can discard (3).

Hence, the only possible order is (4)

viz. R U S P Q T.

[Discuss](#) the solution with TestFunda users.

## Puzzle #03: Troubled Inheritance

Let's name the siblings a, b, c, d, e and f in the decreasing order of their ages.

Consider the scenario when only e and f are left in the process.

Whatever plan is proposed by e, f would reject the plan. In that case e would not get more than 50% support and he would be discarded from the process. In the end, f would get all the 1000 coins. Thus e would never like to end up in a situation that only e and f are left. Thus whatever the plan proposed by d, e would always support it as long as he is getting a bare minimum that is 1 gold coin.

Thus if d, e and f are left in the process, d would propose 999 coins for himself and 1 coin for e and no coin for f.

Now consider the scenario that c, d, e and f are left. If C has to ensure that he gets more than 50% votes (3 votes) he would propose that he get 998 coins, d get no coin, e get 2 coins and f get 1 coin.

Now consider the scenario that b, c, d, e and f are left in the process. If b has to ensure that he gets more than 50% votes (3 votes), he would propose that he get 997 coins, c get no coin, d get 1 coin, e get no coin and f get 2 coins.

Now consider the scenario that a, b, c, d, e and f are left. If a has to ensure that he gets more than 50% votes (4 votes), he would propose that he get 996 coins, b get no coin, c get 1 coin, d get 2 coins, e get 1 coin and f get no coin.

[Discuss](#) the solution with TestFunda users.

## Puzzle #04: The Secret Code

The code word is DIE.

If you were to choose any one character of FAR, then you would not be able to deduce the number of vowels as, if you chose F, there are two words with F - IFO with 2 vowels and FAR with 1 vowel. So you would not be able to deduce whether the number of vowels is one or two. Similar arguments can be made for characters A and R. Hence, a word with any one of F, A and R is not a code word i.e. RUE, IFO, AUD and FAR are definitely not the code word. Hence, DIE is the code word.

D : two words - DIE and AUD, both with 2 vowels

I : two words - DIE and IFO, both with 2 vowels

E : two words - DIE and RUE, both with 2 vowels.

[Discuss](#) the solution with TestFunda users.

## Puzzle #05: Unfair Distribution

Both, Sanaa and Pallavi, ended up with the same number of chocolates. Let Pallavi initially get  $x$  chocolates and her age be  $y$  years.

Hence, initially, Sanaa got  $3x$  chocolates and her age is  $2y$  years. Now, Sanaa gave  $y$  chocolates to Pallavi, so, now, she had  $3x - y$  chocolates while Pallavi had  $x + y$  chocolates.

Later, Pallavi took  $2y$  chocolates from Sanaa's pile. So, now Sanaa had  $3x - 3y$  chocolates and Pallavi had  $x + 3y$  chocolates.

It is given that after Sanaa gave  $y$  chocolates to Pallavi, Sanaa had twice as many chocolates as Pallavi had.

$$3x - y = 2*(x + y)$$

$$3x - y = 2x + 2y$$

$$x = 3y$$

At the end, Sanaa had  $(3x - 3y)$  chocolates and Pallavi had  $(x + 3y)$  chocolates. Substituting  $x = 3y$ , we get

$$\text{Sanaa's chocolates} = 3x - 3y = 9y - 3y = 6y$$

$$\text{Pallavi's chocolates} = x + 3y = 3y + 3y = 6y$$

Thus, at the end, Sanaa and Pallavi, both have the same number of chocolates.

[Discuss](#) the solution with TestFunda users.

## Puzzle #06: Who is the captain?

Vaibhav is the captain of Einsteinia's cricket team.

Players from left to right: Rohit, (Akram/John), (Ajay/Pankaj), Nikhil, (Ajay/Pankaj), Vaibhav, Sumeet, (Satish/Raj), (Satish/Raj), (Akram/John), Mohan

Let's number the positions 1 to 11 from left to right. Hence, the captain is at position 6.

Now, looking at the clues 7, 5, 2 and 8 together, we get

Position 1 - Rohit or Sumeet

Position 3 - Pankaj or Ajay

Position 4 - Nikhil

Position 5 - Pankaj or Ajay

Position 7 - Rohit or Sumeet

Position 11 – Mohan

From clue (3), the only possible positions for Akram and John are Position 2 and Position 10.

Now, there are 3 positions remaining - 6, 8 and 9 and the remaining 3 players are Vaibhav, Satish and Raj. But from clue (1), Satish stood to the right of the captain i.e. Satish must be at position 8 or 9 as position 6 is for the captain. So either Vaibhav or Raj is the captain.

From (4), Raj stood to the right of Vaibhav. Hence, Vaibhav is the captain.

Players from left to right are: Rohit, (Akram/John), (Ajay/Pankaj), Nikhil, (Ajay/Pankaj), Vaibhav, Sumeet, (Satish/Raj), (Satish/Raj), (Akram/John), Mohan.

Thus,

Rohit (1), Nikhil (4), Vaibhav (6), Sumeet (7) and Mohan (11) are the players whose positions are fixed.

Akram and John are at position 2 or 10.

Ajay and Pankaj are at position 3 or 5.

Satish and Raj are at position 8 or 9.

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## Puzzle #07: The Secret Code - Take Two

The vault number is 420.

If clue 6 is false, it creates a paradox. Hence, clue 6 has to be true.

Consider clue 2: If it is true, it has to be the first true clue. Otherwise, it creates a paradox. If it is false, it has to be the second false clue.

Otherwise, it creates a paradox. According to both the cases, clue 1 is false.

As clue 1 is false, clue 9 and clue 10 both are also both false. So, there exist three consecutive true clues.

So, so far we have deduced that Clue 6 is true and clues 1, 9 and 10 are false.

Now, Let's assume that clue 3 is false viz. three consecutive false clues don't exist which indirectly suggests that clue 2 and clue 8 have to be true, else there will be three consecutive false clues.

So, now we have clues 2, 6 and 8 as true and clues 1, 3, 9 and 10 as false clues.

Also, at least two of clues 4, 5 and 7 have to be true as there are three consecutive true clues.

As per clue 8, the number that is to be found is the percentage of true clues. Hence, number is either 50 or 60.

Now, if clue 7 is true, then the number of each true clue divides the number to be found. But 7 and 8 do not divide either 50 or 60. Hence, clue 7 is false which means that clue 4 and 5 are true. But clue 5 contradicts clue 8. Hence, our assumption that clue 3 is false is wrong and clue 3 is true i.e. there are 3 consecutive false clues, which means that clue 8 is false as there are no other possibilities for 3 consecutive false clues.

Also, as clue 6 is not the last true clue, clue 7 is true.

Thus, we have clues 3, 6 and 7 as true clues and clues 1, 8, 9, and 10 as false clues.

Also, according to clue 7, the number of each true clue divides the number to be found. And, as per clue 5, the sum of the numbers of the true clues is the number to be found. For all possible combinations, clue 5 is false.

Now that clue 10 is false, there exist 3 consecutive true clues. Hence, clue 2 and clue 4 have to be true.

Thus, we have Clues 2, 3, 4, 6 and 7 as true clues and clues 1, 5, 8, 9, and 10 as false clues.

Now, we proceed to deduce the number.

- a. The number is divisible by 5 (as per clue 4)
- b. The number is divisible by 2, 3, 4, 6, 7 (as per clue 7)
- c. The sum of the numbers of the true clues is greater than or equal to the number of divisors of the number to be found, (apart from 1 and itself). (as clue 9 is false)

Thus, the smallest possible number is 420.

The divisors of 420, apart from 1 and itself are 2, 3, 4, 5, 6, 7, 10, 12, 14, 15, 20, 21, 28, 30, 35, 42, 60, 70, 84, 105, 140, 210. There are total of 22 divisors. Also, the sum of the numbers of the true clues is 22 ( $2+3+4+6+7=22$ ), which satisfies condition c.

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## Puzzle #08: The son with the black shirt

The ages of the three children were 9 years, 2 years and 2 years respectively.

According to clue 1, the product of their ages is 36.

So, the possible combinations of three numbers that when multiplied equal 36 are:

1, 1, 36

1, 2, 18

1, 3, 12

1, 4, 9

1, 6, 6

2, 2, 9

2, 3, 6

3, 3, 4

On adding the numbers in each combination, we get

$$1 + 1 + 36 = 38$$

$$1 + 2 + 18 = 21$$

$$1 + 3 + 12 = 16$$

$$1 + 4 + 9 = 14$$

$$1 + 6 + 6 = 13$$

$$2 + 2 + 9 = 13$$

$$2 + 3 + 6 = 11$$

$$3 + 3 + 4 = 10$$

Except for two cases, all the sums have distinct values.

Even though we do not know the pin code of that area, we do know that Manish knew it. So, by using clue 2 i.e. the sum of the ages was

equal to the last two digits of the pin code, he could easily deduce the ages.

But, Manish demanded more information, which implies that the information wasn't sufficient and, hence, at least two of the combinations of numbers have the same sum viz. 13 (1, 6, 6 and 2, 2, 9).

But, Vijay said that his ELDEST son wore a black shirt that day. Hence, the combination 1, 6, 6 isn't possible. So, the ages of the three sons were 9 years, 2 years and 2 years respectively.

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## Puzzle #09: Lying Layla

Layla speaks the truth only on Tuesdays.

As Layla speaks the truth only on one day in a week, her statements on day 1 and day 3 can't be false together. Otherwise, it would imply that she speaks the truth on more than one day in a week.

Also, since all three statements are spoken on three consecutive days, the statements on day 1 and day 3 can't be true together.

Thus, either the statement made on day 1 is true and the statement made on day 3 is false or vice versa.

Also, the statement made on day 2, viz. "It's either Thursday, Saturday or Sunday today.", must be false i.e. day 1 is not Saturday, Friday or Wednesday.

Let's now assume that the statement made on day 1 is true. Then, from the statement made on 3, day 1 must be either Friday or Saturday. But it has already been ascertained that day 1 isn't Wednesday, Friday or Saturday.

Hence, the statement made on day 1 is false and the statement made on day 3 is true. Thus, from statement 1, day 3 is either Monday or Tuesday.

But, it has already been established that day 1 can't be Saturday i.e. day 3 can't be Monday. Hence, Layla tells the truth on Tuesday.

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## Puzzle #10: The Confused Will

Let's tabulate the given information:

Sr. No.	Ancestral Property	Family Jewellery	Mercedes Benz	Garment Factory
1	Janice	Jeniffer	Dominic	Robin
2	Jeniffer	Dominic	Janice	Robin
3	Janice	Jeniffer	Robin	Dominic
4	Jeniffer	Janice	Dominic	Robin
5	Janice	Robin	Dominic	Jeniffer
6	Robin	Janice	Dominic	Jeniffer
7	Dominic	Janice	Jeniffer	Robin
8	Robin	Dominic	Jeniffer	Janice
9	Robin	Dominic	?	?

Now, let's assume that Jeniffer gets the Ancestral Property. Then from (4), Janice gets the Family Jewellery, Dominic gets the Mercedes Benz and Robin gets the Garment Factory. But from (7), Robin will not get the Garment Factory unless Janice gets the Family Jewellery and Jeniffer gets the Mercedes Benz. Thus, it contradicts the original assumption. Hence, Jeniffer will not get the Ancestral Property.

Let's assume that Jeniffer gets the Family Jewellery. Then from (1), Janice gets the Ancestral Property, Dominic gets the Mercedes Benz and Robin gets the Garment Factory. But from (5) or from (7), it contradicts the original assumption. Hence, Jeniffer will not get the Family Jewellery.

Let's assume that Jeniffer gets the Mercedes Benz. Then from (8), Robin gets the Ancestral Property, Dominic gets the Family Jewellery and Janice gets the Garment Factory - which does not contradict any of the statements.

Similarly, you can assume that Jeniffer gets the Garment Factory. (which is contradictory to (9))

Hence, Jeniffer gets the Mercedes Benz, Janice gets the Garment Factory, Robin gets the Ancestral Property and Dominic gets the Family Jewellery.

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## Puzzle #11: The Jumbled Cards

The number of Queens in each envelope was different and each envelope had a maximum of 3 cards, the number of queens in the envelopes ranged from 0 to 3.

So, the possible combinations in each envelope were:

- a. 3 Queens
- b. 2 Queens and 1 King
- c. 1 Queen and 2 Kings
- d. 3 Kings

Let Q denote a Queen and K denote a King.

Manish stepped forward with 2 Queens. So, the envelope may have been labeled 3 Kings, 2 Queens and 1 King or 1 Queen and 2 Kings or 3 Queens. If it was labeled 3K, then it's possible that the envelope may have 2Q or 3Q. That way, he surely cannot deduce the 3rd card. Hence this case isn't possible.

If the label bore 1 Queen and 2 Kings, then 2Q or 3Q are possible and hence, he cannot definitely predict the third card.

If label read 3Q, then only 2Q is possible. He already had 2 Queens. Hence the remaining card was a King. So, this label was possible.

However, if Manish's envelope read 3Q, then,

Since Joel picked 1Q and 1K, the possible labels on Joel's envelopes are 3K, 1Q & 2K or 2Q & 1K.

If Joel's label bore 3K, he could definitely deduce that he had 1Q and 2K as 3Q isn't possible. This, in turn, would mean that Amit's envelope was labeled 1Q & 2K or 2Q & 1K. In both cases, the he would be able to easily identify the 3 cards which would be 3K or 3Q. But he couldn't deduce the third card. So, it's not possible that Joel's envelope read 3K.

If Joel's label read 1Q & 2K, then it would contain 3K or 3Q. Either case isn't possible.

If Joel's label read 2Q & 1K, then it would contain 3K or 1Q & 2K or 3Q, and he would easily deduce that he had 1Q & 2K. This, in turn, would mean that Amit's

envelope read 3K or 1Q & 2K. The first case is not possible as Joel already had 2K and 1 Q. As per the second case, the possible contents were 3K or 3Q which he could easily deduce. But he couldn't. So, it's not possible that Joel's envelope was labeled 2Q & 1K.

Thus, Joel can't have any of the remaining three combinations if Manish has 3Q written on it. Hence, Manish definitely DOES NOT have 3Q written on his envelope. Hence, his envelope will have been labeled 2Q & 1K and it would contain 3Q.

Hence, no one else's envelope would contain 3QK or be labeled 2Q & 1K.

Joel picked 1Q & 1K. Hence, the possible labels on the envelopes were 3K, 1Q & 2K or 3Q.

If the envelope read 3K, it could contain 1Q & 2K or 2Q & 1K. So, he wouldn't be able to deduce the 3rd card. But he could. So, this isn't a valid case.

If label bore 3Q, the envelope could contain 3K, 1Q & 2K or 2Q & 1K. So, he wouldn't be able to deduce the 3rd card. But he could. So, this also isn't a valid case.

If the label bore 1Q & 2K, the envelope may have contained 3K or 2Q & 1K. 3K wasn't possible as he already had 1Q. So, he could be sure that the 3rd card was a Q. Hence Joel had 2Q & 1K while his envelope read 1Q & 2K.

Now, no further envelopes can contain 2Q & 1K and 3Q or be labeled 2Q & 1K and 1Q & 2K.

Amit picked up 2K. His envelope may have been labeled 3K or 3Q. If it were labeled 3K, the only possible contents are 1Q & 2K. But he wasn't sure about his 3rd card. So his envelope wasn't labeled 3K.

If Amit had got the envelope labeled 3Q, it was possible that the envelope contained 3K or 1Q & 2K. And, since he wasn't sure in the first place, that was what his envelope was labeled.

Sanaa obviously had the remaining envelope that read 3K and contained 1Q & 2K as it was not possible that she did not have a single Q.

Hence, Amit had what was remaining, viz. 3K.

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## Puzzle #12: Prince of Parzania - The Three Witches

Alvira is the orator with the red hair having 3 or 6 pets.

We can deduce the possible number of pets each can have and then proceed by trial and error.

From (1), Roohina has at least 4 pets and any number from -  
4, 8, 12, 16, 20, 24,

From (2), Rifat has at least 5 pets and any number from -  
5, 7, 9, 11, 13, 15, 17, 19, 21,

From (3), Alvira has at least 3 pets and any number from -  
3, 6, 9, 12, 15, 18, .....

From (4), total number of pets is at most 24. Also, if total number of pets is odd, Alvira must have an even number of pets and if total number of pets is even, Alvira must have an odd number of pets.

Now,

The total number of pets can not be 13 as no three numbers - one from each sequence - can add up to 13.

The total number of pets can not be 12, 14, 15, or 17 as there is just a one way to get that sum by adding up one number from each sequence. Hence, we will know how many pets they individually have. This contradicts the statement (4).

The total number of pets can not be 18, 20, 21, 22, 23 or 24 as there are multiple ways to get that sum. Hence, we won't know the number of pets, that least one of them has which again contradicts statement (4).

Thus, the total number of pets must be 16 or 19 and there are four possible cases:

Case 1: Total number of pets = 16

- a. Alvira-3, Roohina-8, Rifat-5
- b. Alvira-3, Roohina-4, Rifat-9

Case 2: Total number of pets = 19

- a. Alvira-6, Roohina-4, Rifat-9
- b. Alvira-6, Roohina-8, Rifat-5

In case they have 16 pets together, we know that Alvira has 3 pets and in case they have 19 pets together, we know that Alvira has 6 pets. Thus, in both cases, we only know the exact number of pets owned by Alvira. Hence, Alvira is the orator.

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## Puzzle #13: Blast from the Past

Darren is an Oldton.

Consider two cases:

Case 1: Alex is a Newton

If Alex is a Newton, Barney is an Oldton as Alex always tells the truth.

Similarly, Charlie is a Newton as Barney always lies. This, in turn, makes Darren an Oldton as Charlie is a Newton and always tells the truth.

Now, both, Alex and Charlie are Newtons. So, Alex would have said that Charlie is a Newton. Hence, Darren, being an Oldton, would definitely answer that Alex would call Charlie an Oldton, which he invariably did. Hence, Darren is definitely an Oldton.

Case 2: Alex is an Oldton

Now, if Alex is an Oldton, Barney is a Newton as Alex always tells lies.

Similarly, Charlie is an Oldton as Barney always tells the truth. This, in turn, makes Darren a Newton as Charlie is an Oldton and always lies.

However, both, Alex and Charlie are Oldtons. So, Alex would have said that Charlie is a Newton. Hence, Darren, being a Newton, would definitely answer that Alex would call Charlie a Newton, which he did not. This statement contradicts the earlier one and, hence, this isn't a valid case. Thus, only case 1 holds good and Darren is definitely and Oldton

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## **Puzzle #14: Prince of Parzania - The Elusive Password**

The password is ANGLE.

From the play on the word "try", we can see that, in the figure, there is a clue in the inscription: To Open the door: [TRIANGLE].

Orally, it would sound like "To open the door: TRY ANGLE".

The importance of the triangle was emphasized by the glow around it.

The word "TRY" was already inscribed beside the screen on the device as a clue to the password. Keying in "ANGLE" would unlock the door.

Hence, the password is ANGLE.

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## Puzzle #15: And, the winner is....?

Jodi Number 204 won the contest out of 288 couples.

Let's assume that in Dance Baliye, N couples, having Jodi Numbers from 1 to N, had participated. Let the Jodi number of the winning couple be X.

Now it is given that the Jodi numbers less than that of the winning couple added up exactly the same as all the Jodi numbers greater than that of the winning couple.

Hence,

$$1 + 2 + 3 + \dots + (X-1) = (X+1) + (X+2) + (X+3) + \dots + N$$

Both the sides of the above equations are in Arithmetic Progression. Hence, using the A.P. summation formula,

$$[(X-1)/2][2*(1) + (X-1-1)] = [(N-X)/2][2*(X+1) + (N-X-1)]$$

$$[X-1][(2) + (X-2)] = [N-X][(2X+2) + (N-X-1)]$$

$$(X-1)(X) = (N-X)(N+X+1)$$

$$X^2 - X = N^2 + NX + N - NX - X^2 - X$$

$$X^2 = N^2 + N - X^2$$

$$2(X^2) = N^2 + N$$

$$X^2 = (N^2 + N)/2$$

$$X^2 = N(N+1)/2$$

Now, using Trial and Error method to find values of N and X such that above equation is satisfied, we get

1. N = 8, X = 6
2. N = 49, X = 35
3. N = 288, X = 204
4. N = 1681, X = 1189
5. N = 9800, X = 6930

But, the Jodi number has to be between 1 and 500, while the number of contesting couples is greater than 50; the only possibility is that there were 288 couples with Jodi Number 204 winning the contest.

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