

A '3D' Logic Puzzle*

Danny, Manny and Yanny are trying to befriend Cheryl's sister Peryl on SpaceBook. However, Peryl wants them to prove that they are worthy to join her network: She asks them to deduce her birthdate (date, month and year) from the following clues.

She whispers only the Date to Danny, only the Month to Manny, and only the Year to Yanny. They all know that Danny has only the date, Manny only the month, and Yanny only the year. The guys are also instructed not to reveal their specific knowledge to the others.

She also provides them with a table of possible solutions (see below). The rows represent possible years, the columns the possible months, while the cells contain the possible dates. Some cells have more than one option (date), while some have none.

With that, the guys sit down to figure out the solution: the date, month and year. (During which time one of them develops a severe headache, while another attempts to Google the answer). After a while, they make the following comments.

Yanny: I don't have the solution, but at least I am sure neither does Manny.

Manny: It's true, I don't have the solution yet, but I am certain neither does Danny.

Danny: I admit it. I still don't know. Oh Peryl! Why did you have to make it so difficult?

Peryl: Hehehe..., sorry guys. By the way, I am sure you noticed that one of the dates in the table is fake. Just ignore it and proceed.

Danny: Well, that comment wasn't of much help to me!

Yanny: Nor to me!

Manny: Wait! I've got it. I have the solution!

Danny and Yanny in unison: Then we have it too!

Did you, dear reader, figure it out?^

Here are Peryl's possible birthdates as provided by her to the guys:
(Dashes mark blank cells).

	January	February	March	April
1991	--	10	8	3, 14
1992	10	26	14	2, 8
1993	--	2, 3, 29	14, 29	10, 26
1994	--	5	2, 29	5, 8, 10

(In a 3D drawing, the dates would have been indicated above the year-month plane. Hence, "3D"logic puzzle) .

Epilogue

By the way, the story continues: Peryl congratulates them and invites them to the second round of her test. Oh, yes, she forgot to tell them that they also had to play three rounds of blindfold lightning chess against her, underwater.

Irrelevant Biographies

In life, Peryl, Danny, Manny and Yanny are educators based in NeverSayNeverLand, but in the cyberworld they have alternate digital personas: Peryl is a Chess Grandmaster and synchronised swimmer, Danny is a time-travelling salsa dancer, Manny is a mathemagician, and Yanny is a yogi and chef. They spend their time watching The Big Bang Theory, The Simpsons, The Noose, and re-runs of Mind Your Language.

*This puzzle was created by SRI (www.simplicitysg.net) on 14 April 2015, Singapore. You may download this puzzle from the "Puzzles and Challenges" page of the above website. This puzzle was inspired by the logic puzzle from SASMO Singapore that went viral on the web in April 2015.

More Challenges, Puzzles and mathematics adventures are in our book *Integrated Mathematics for Explorers* by Adeline Ng and Rajesh Parwani. Available from Amazon.com and the publisher's webstore (Singapore):
www.store.simplicitysg.net
