
Problem of the Week

Solution Seven

I have 1 brother and 2 sisters. My mother's parents have 10 grandchildren, while my father's parents have 11 grandchildren. If no divorces or re-marriages occurred, and if none of my father's brothers or sisters married any of my mother's sisters or brothers, how many first cousins do I have?

SOLUTION: You have 13 first cousins.

Your first cousin is the child of one of your parent's siblings. You, plus your three siblings, account for four of your grandparents' grandchildren.

That means six of the ten maternal grandchildren are your cousins. Also, seven of the eleven paternal grandchildren are your cousins. This leads to a total of 13 first cousins, as claimed.

Of course, we also had some bonus problems this week. So let's have a look at them.

The absolute, slam-dunk classic of this genre involves a man looking at a painting of a second man. Referring to the man in the painting, he says, "Brothers and sisters I have none, but this man's father is my father's son." Who is the man in the painting?

In the absence of siblings, "my father's son"

is me. So the man's statement is equivalent to, "This man's father is me." So the man is looking at a picture of his son.

What if the man says of the person in the painting, "Brothers and sisters I have none, but this man's son is my father's son." Now who is he looking at?

This time the man's statement is equivalent to, "This man's son is me." So he is looking at a picture of his father.

Suppose two men each take the other's mother in marriage. What would be the relationship between their sons?

The two sons are both uncle and nephew to each other.

Let us call the two men Alan and Bert, and their sons Carl and Davy respectively. Bert and Carl are half-brothers, as are Alan and Davy. Each pair has the same mother, you see. So Bert's son Davy is Carl's nephew, and Carl is uncle to Davy. By similar reasoning, Davy is uncle to Carl, and Carl is Davy's nephew. Strange family!

The Governor of Whatchamacallit wants to give a very small dinner party. He intends to ask his father's brother-in-law, his brother's father-in-law, his father-in-law's brother, and his brother-in-law's father. How many guests will there be, if the dinner party is to be as small as possible.

There will be only one guest! A bit of Googling should reveal the crazy family tree that could lead to this state of affairs.