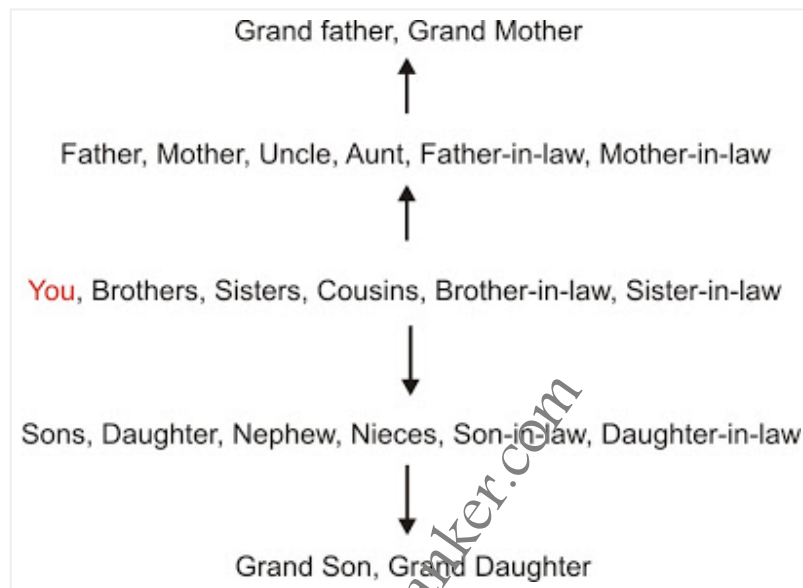


# Blood Relations

To solve the blood relation questions easily we need to observe the family tree.



If you assume you are in the middle then in your generation, you have sisters, brothers, cousins, Brother-in-law, sister-in-law. you can easily observe in each generation which of the relations you might have.

In solving the blood relation problems we usually assume the speaker is in the position "you" and try to prepare the diagram according to the question.

It is always best practice to denote Males and Females with notation.

## Some general Relationships:

- |                    |   |
|--------------------|---|
| 1. Brother         | Son of Mother or Father                           |
| 2. Sister          | Daughter of Mother or Father                      |
| 3. Aunt            | Sister of Mother or Father                        |
| 4. Uncle           | Brother of Mother or Father                       |
| 5. Cousin          | Son of Uncle or Aunt or Daughter of Uncle or Aunt |
| 6. Grandmother     | Mother of Father or Mother                        |
| 7. Grandfather     | Father of Father or Mother                        |
| 8. Niece           | Daughter of Brother or Sister                     |
| 9. Nephew          | Son of Brother or Sister                          |
| 10. Brother-in-law | Sister's Husband or Brother of Wife or Husband    |

11. Sister-in-law      Brother's Wife or Sister of Wife or Husband

12. Daughter-in-law    Wife of Son

### Practice Problems

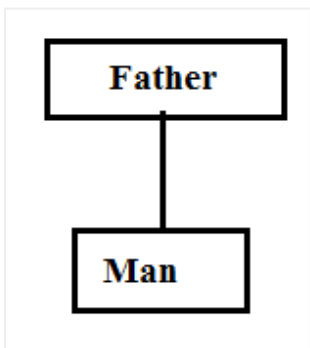
#### Solved Example 1:

Pointing to a man, a lady says that his father is the third son of her grandmother. How is the lady related to that man?

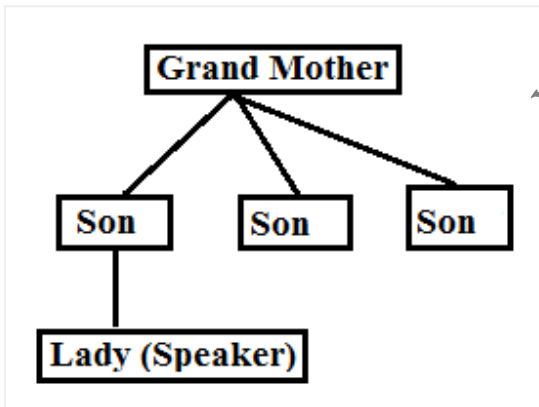
Ans: Pointing to a man, a lady says that his father is the third son of her grandmother.

Always the question consists of two parts. The phrase before "is" and the phrase after "is". Firstly draw the separate diagrams for these two phrases and merge them.

Pointing to a man a lady says that his father:

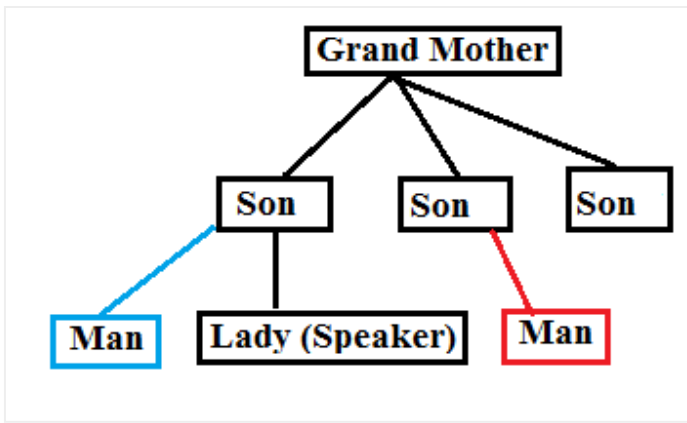


the third son of her grandmother:



Son of her grand mother means, that person is the lady's father or uncle.

Merge the two diagrams above. To the man the lady is pointing is son of one of these 3 sons.



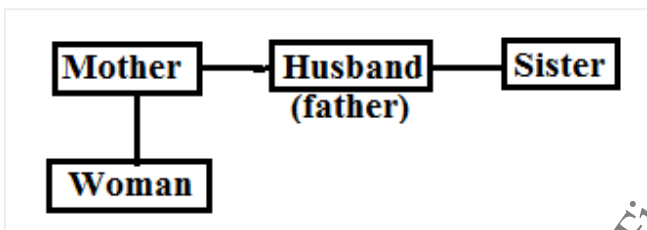
If the lady and the man has children of two different people then they are cousins, otherwise they are siblings. So the lady is either cousin or sister to the man.

### Solved Example 2:

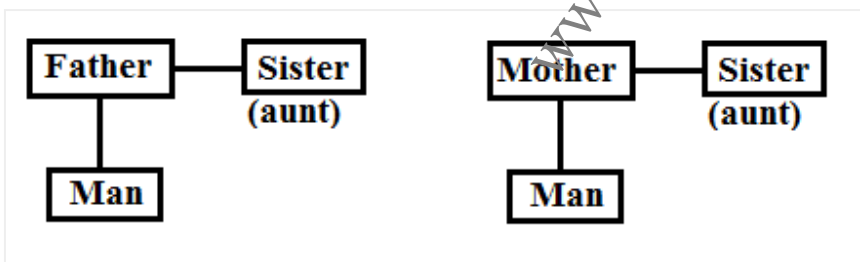
Introducing a woman, a man said, "Her mother's husband's sister is my aunt." How is the man related to that woman?

Sol: Introducing a woman, a man said, "Her mother's husband's sister is my aunt."

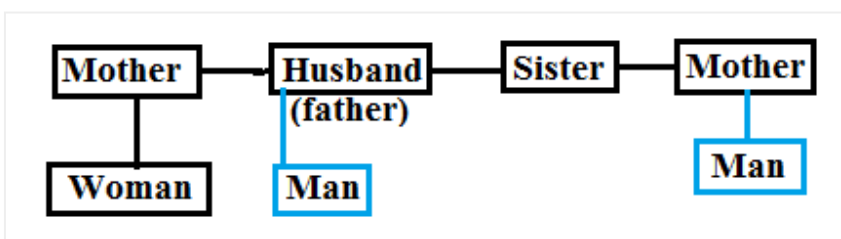
"Her mother's husband's sister:



My aunt: Aunt is father's sister or Mother's sister



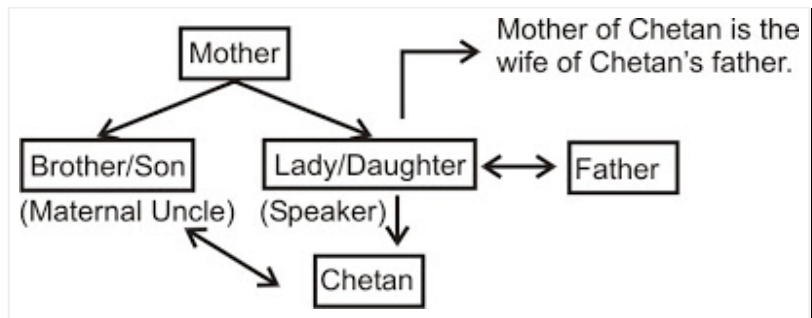
By merging these two diagram's we get two cases



So the man is either brother or cousin to that woman.

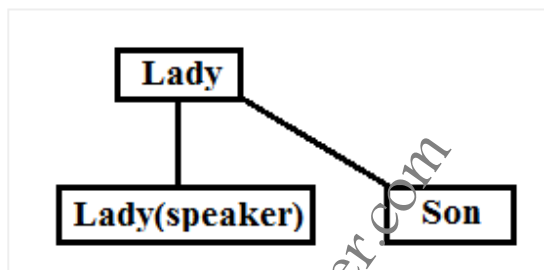
### Solved Example 3:

Pointing to a photograph a lady tells Chetan, “I am the only daughter of this lady and her son is your maternal uncle.” How is the speaker related to Chetan’s father?

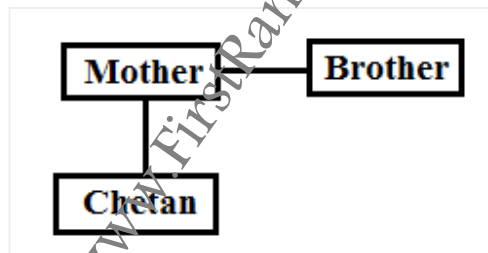


Pointing to a photograph a lady tells Chetan, “I am the only daughter of this lady and her son is your maternal uncle.

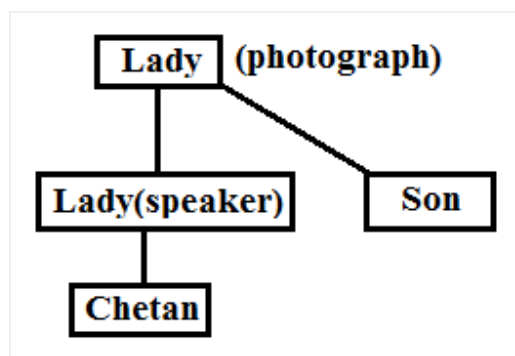
Pointing to a photograph a lady tells Chetan, “I am the only daughter of this lady and her son:



Your maternal uncle: Chetan's maternal uncle means, his mother's brother.



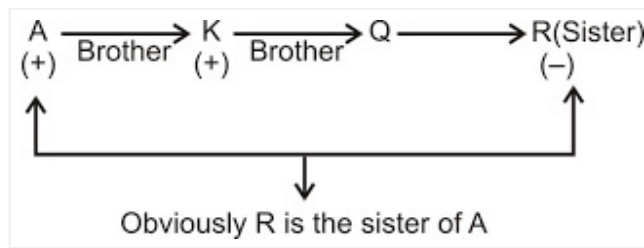
Merge the above two diagrams.



So the speaker is the mother of Chetan. Speaker is wife of Chetan's father.(chetan's father is not shown in the diagram)

#### Solved Example 4:

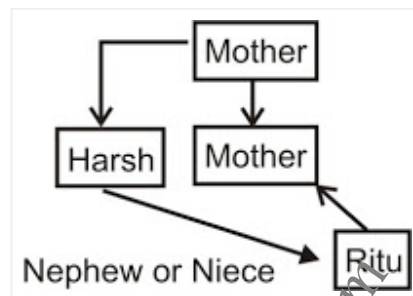
A is the brother of K, K is the brother of Q and R is the sister of Q. How is R related to A?



Simple one. From the diagram it is clear that R is sister of A.

#### Solved Example 5:

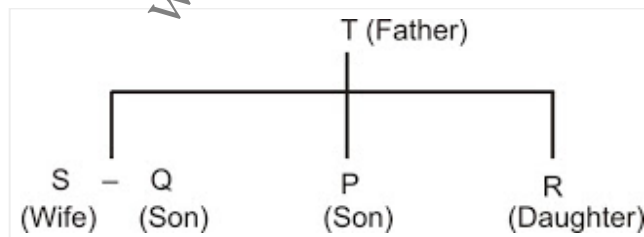
Introducing Harsh, Ritu said, "He is the only son of my mother's mother." How is Ritu related to



Now Ritu's mother's mother means her grand mother. Grand mother's only son is Ritu's uncle. But we don't know Ritu is **male or female** so Ritu relationship with harsh cannot be determined.

#### Solved Example 6:

A family consists of five members: P, Q, R, S and T. T has two sons, an unmarried daughter and a daughter-in-law. P is the brother-in-law of above-mentioned daughter-in-law. Q's sister is not happy with Q's wife. But P and his father support Q's wife S. Who is T's daughter?



From the above diagram, R is T's daughter

#### Solved Example 7:

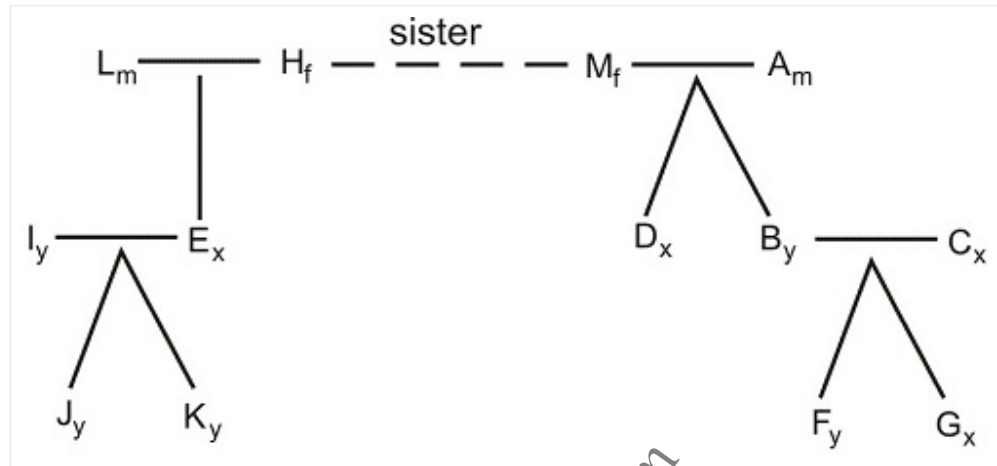
##### Group Questions:

Directions for Questions 1 to 4 : Read the given data carefully and solve the questions follow.

1. A is the father of two children. B and D, Who are of different sexes.
2. C is B's spouse.
3. E is the same sex as D.

4. B and C have two children : F, who is the same sex as B, and G, who is the same sex as C.
5. E's mother, H, who is married to L, is the sister of D's mother, M.
6. E and E's spouse. I, have two children, J and K, who are the same sex as I.
7. No persons have married more than once and no children have been born out of wedlock. The only restrictions on marriage are that marriage to a sibling, to a direct descendant, or to more than one person at the same time is forbidden.

Solution:



We have to draw the above diagram, based on the information given in the question. If the gender of the person is known, it is denoted by the suffix m or f. If not known, it is denoted by x or y. We know, for example, that G is the same sex as C, so we label both x; B and therefore F are the opposite sex from C, so we label both y, and so on. Horizontal lines indicate marriage, vertical or diagonal lines indicate children.

1. F is

- a. G's brother
- b. G's sister
- c. B's daughter
- d. D's niece or nephew
- e. the same sex as H

Ans: This question orients you, in case you made an unwarranted assumption about the sexes. Since we do not know B's sex for sure, we don't know F's; this rules out all the wrong choices - including E, since we do know H's sex. As the child of D's sibling B, F is D's niece or nephew. So option D is correct

2. According to the rules, D can marry

- a. F only
- b. G only
- c. J only
- d. J or K only
- e. F, J or K

Ans: D is an x, and can therefore marry any unmarried y. So he can marry F, J, or K. Option E is correct.

3. If L and H divorced, H could marry

- I. D only
- II. F
- III. D or G
- a. I only
- b. II only
- c. III only
- d. I or II, but not both.
- e. II or III, but not both

Ans: H is female. If x = male, H can marry D or G, so I is out. If y = male, H can marry F. Clearly H cannot marry both. (J and D are ruled out, since they are H's direct descendants.)

4. If the generation of F and K's parents and their siblings contains more females than males, which of the following must be true ?

- a. There are more females than males in F and K's generation.
- b. J is male.
- c. A is the same sex as D.
- d. K and G are the same sex.
- e. D is H's nephew.

Ans: This generation (the middle generation) contains three x's and two y's. If the more x's are female, J, who is a y, must be male. If x = female, choices A, C, and E are untrue. Choice D can never be true. So option B is correct.

#### Solved Example 8:

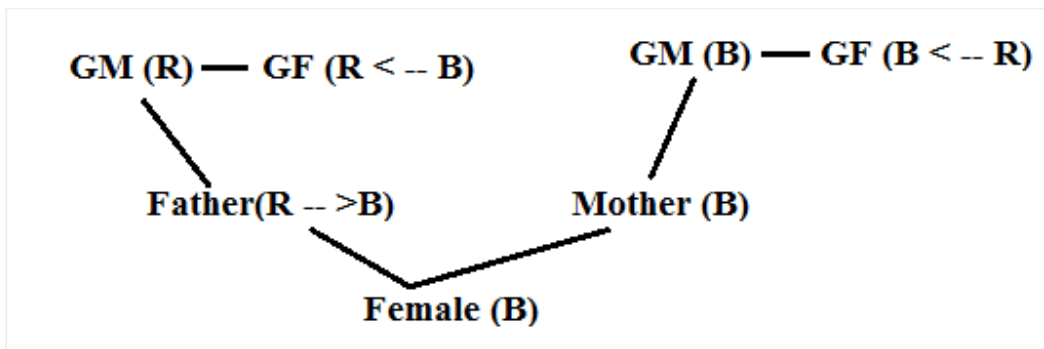
##### Directions for Questions 5 to 7 :

In a certain society, there are two marriage groups, Red and Brown. No marriage is permitted within a group. On marriage, males become part of their wife's group; women remain in their own group. Children belong to the same group as their parents. Widowers and divorced males revert to the group of their birth. Marriage to more than one person at the same time and marriage to a direct descendant are forbidden.

5. A Brown female could have had

- i. a grandfather born Brown
  - ii. a grandfather born Red.
  - iii. two grandfathers born Brown
- a. I only    b. III only  
c. I and II only    d. II and III only  
e. I, II, and III

Solution:

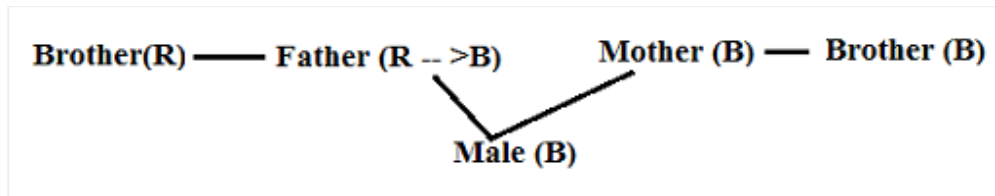


Both parents of a Brown female are Brown, but her father was born Red. Her mother's mother was Brown, and therefore that grandfather was born Red (I); her father's mother was Red, and therefore that grandfather was born Brown (II). Use the following logic: if the parents were born in different groups, and the grandmothers were in the same groups, as the parents, the grandfathers must have been in different groups. Option C

6. A male born into the Brown group may have

- a. an uncle in either group

- b. a Brown daughter
- c. a Brown son
- d. a son-in-law born into the Red group
- e. a daughter-in-law in the Red group



From the above diagram it is clear that a Male born into a brown group may have Uncle in either group. Option A correct.

7. Which of the following is not permitted under the rules as stated ?
- a. A Brown male marrying his father's sister
  - b. A Red female marrying her mother's brother
  - c. A man born Red, who is now a widower, marrying his brother's widow
  - d. A widower marrying his wife's sister
  - e. A Widow marrying her divorced daughter's ex-husband.

Ans: (A) A Brown male's mother is brown, father is born Red. So his sister is red. So marriage permitted

(B) A Red female's mother is Red, and the brother, whether unmarried, divorced, or a widower, is also Red. No Red may marry a Red. **So not permitted.**

(C) The brother of the man born Red (who as a widow, is Red again) was also born Red, so his wife (now his widow) is Brown.

(D) Any widower has reverted to his original group, while his wife's sister is in the same group as his wife was. So marriage permitted.

(E) Any widow's daughter is in her own group, and the ex-husband, having reverted to the group of his birth, will be eligible.