

Blood Relation

LEARNING OBJECTIVES

- ❑ Relations across the generations
- ❑ Approaching a question from back-end
- ❑ Mapping of generations to eliminate the options

Introduction to the Topic

This chapter is quite important for MBA exams like SNAP, MAT, CMAT etc., and Campus Recruitment Examinations.

Following kind of questions are expected in Family Tree questions:

- i. Find out the relationship of one person with other person.
- ii. Relationship will be provided and the sex of the person will be asked to determine.
- iii. Find out the total number of males or females in the family.

The only skill set required to solve these kinds of questions is a very simple thing—Do we have the ability to translate the given situation in the question into our real life? The more easily, we do this, the easier will be to solve the questions related to ‘family tree’.

To remember easily the relations may be divided into two sides as given below:

Paternal Side Relations

Father's father = Grandfather
 Father's mother = Grandmother
 Father's brother = Uncle
 Father's sister = Aunt
 Children of uncle = Cousin
 Wife of uncle = Aunt
 Son/daughter of aunt = Cousin
 Husband of aunt = Uncle

Maternal Side Relations

Mother's father = Maternal grandfather
 Mother's mother = Maternal grandmother
 Mother's brother = Maternal uncle
 Mother's sister = Aunt

Son/daughter of maternal uncle = Cousin

Wife of maternal uncle = Maternal aunt

Generation Chart

Generation 1	Grandfather, Grandmother (Both Paternal and Maternal)
Generation 2	Father, Mother, Father in Law, Mother in Law, Uncle, Aunt (Both Paternal and Maternal),
Generation 3	YOU, Brother, Sister, Cousins, Brother in Law, Sister in Law
Generation 4	Son, Daughter, Niece, Nephew
Generation 5	Grandson, Granddaughter

How to Approach a Question

While attempting a blood relation question, keep following thumb rules in mind:

- (a) Ideally, these questions should be approached from the back end.
- (b) Do a generation check—Keep a tab on level of generation—if the answer is in same generation as that of the subject or in a generation above one level or lower than the subject? This may not get you the answer always, but will help you in eliminating the options.

Example 1 If X is the brother of the son of Y's son, how is X related to Y?

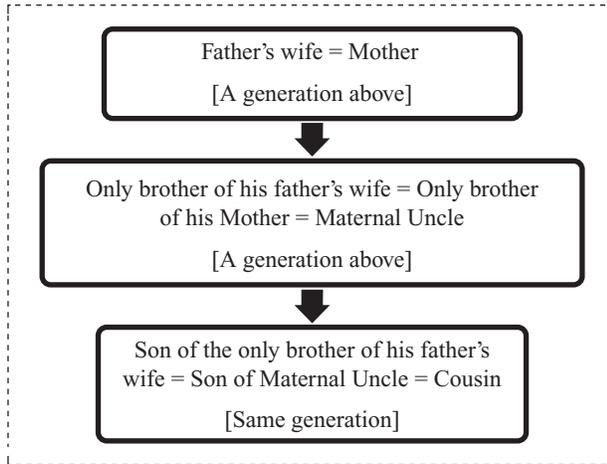
Solution Son of Y's Son – Grandson of Y

Next Step – Brother of the son of Y's son = Brother of (Grandson of Y) = Grandson of Y

Example 2 Amit introduces Rahul as the son of the only brother of his father's wife. How is Rahul related to Amit?

- (a) Cousin
- (b) Son
- (c) Uncle
- (d) Son-in-law

Solution In general, in these kinds of questions, we should start from the back-end.



Hence Cousin is the answer.

Hence, option (a) is the correct answer..

Alternatively, we can eliminate few options by using the generation check.

Father's wife – A generation above (since father is a generation above, and father's wife will be in the same generation as that of father).

Only brother of his father's wife = Only brother + a generation above = A generation above

Son of the only brother of his father's wife = Son of + A generation above = Same generation

Hence answer should be in the same generation.

Now let us check the options:

- (a) Cousin – same generation
- (b) Son – One generation lower
- (c) Uncle – One generation above
- (d) Son-in-law – One generation lower

Hence, option (a) is the correct answer..

Example 3

$A + B$ means A is the mother of B

$A - B$ means A is the brother B

$A @ B$ means A is the father of B and

$A \times B$ means A is the sister of B,

Which of the following shows that P is the maternal uncle of Q?

- (a) $Q - N + M \times P$
- (b) $P + S \times N - Q$
- (c) $P - M + N \times Q$
- (d) $Q - S @ P$

Solution At first, do some mental mapping regarding how we want to achieve the asked. We have to obtain P is the maternal uncle of $Q \Rightarrow P$ is the brother of mother of Q (this is the simplest way we can arrive at the required). Now we will see the options one by one.

- (a) $Q - N + M \times P$

$Q - N$ means Q is the brother of N.

$N + M$ means that N is the mother of M. Using above two statements, we can say that Q is the maternal uncle

of M. Now to show that P is the maternal uncle of Q, next relation should be M is the brother/sister of Q.

$M \times P = M$ is the sister of P

So, the final relation that comes out is – Q is the maternal uncle of M and M is the sister of P, hence Q is the maternal uncle of P. (This is exactly opposite of what we wanted to achieve).

- (b) $P + S \times N - Q$

$P + S \times N = P$ is the mother of S and S is the sister of $N \Rightarrow P$ is the mother of N

$N - Q = N$ is the brother of B $\Rightarrow P$ is the mother of B. Hence not true.

- (c) $P - M + N \times Q$

$P - M + N = P$ is the brother of M and M is the mother of N $\Rightarrow P$ is the maternal uncle of N

Next, $N \times Q = N$ is the sister of Q

We already know that P is the maternal uncle of N and N is the sister of Q $\Rightarrow P$ is the maternal uncle of Q.

Hence option (c) is the answer.

- (d) $Q - S @ P$

$Q - S @ P = Q$ is the brother of S and S is the father of B $\Rightarrow Q$ is the uncle of B.

Example 4

$A + B$ means A is the sister of B

$A - B$ means A is the brother of B

$A \times B$ means A is the daughter of B.

Which of the following options show that E is the maternal uncle of D?

- (a) $D + F - E$
- (b) $D - F \times E$
- (c) $D \times F + E$
- (d) None of these

Solution Going through the options:

- (a) $D + F - E = D$ is the sister of F and F is the brother of E \Rightarrow This remains in the same generation (as in D and E are in the same generation), so we certainly know that “maternal uncle (which is one generation above)” relation cannot be established here. Hence option (a) cannot be the answer.

- (b) $D - F \times E = D$ is the brother of F and F is the daughter of B $\Rightarrow D$ is the son of B

- (c) $D \times F + E = D$ is the daughter of F and F is the sister of E $\Rightarrow E$ can be maternal uncle or maternal aunt of D depending upon if E is a male or a female. F is the sister of E indicates the gender of F (Female) only and does not tell anything about the gender of E.

Hence option (d) None of these is the answer.

Example 5 Introducing a boy, a girl said, “He is the son of the daughter of the father of my uncle.” How is the boy related to the girl?

- (a) Cousin
- (b) Nephew
- (c) Uncle
- (d) Son-in-law

Solution Father of the boy's uncle \Rightarrow the grandfather of the boy and daughter of the grandfather \Rightarrow

Aunt \Rightarrow Son of aunt = Cousin

PRACTICE EXERCISES

- Q.1** A girl introduced a boy as the son of the daughter of the father of her maternal uncle. The boy is girl's:
 (a) Son
 (b) Uncle
 (c) Son-in-law
 (d) cannot be determined
- Q.2** Pointing out to a photograph, a man tells his friend 'She is the daughter of the only son of my father's wife'. How is the girl in the photograph related to the man?
 (a) Daughter (b) Cousin
 (c) Mother (d) Sister
- Q.3** X introduces Y saying, "He is the husband of the granddaughter of the father of my father. How is Y related to X?
 (a) Brother (b) Son
 (c) Brother-in-law (d) Son-in-law
- Q.4** Showing on to the man on the stage, Ritika said he is the brother of the daughter of the wife of my husband. How is the man on the stage related to Ritika?
 (a) Son (b) Husband
 (c) Cousin (d) Nephew

Directions for questions 5 to 8: Read the passage below and solve the questions based on it.

There is family of six persons A, B, C, D, E and F. Following information pertains to the members of this family:

- (a) There are two married couples and the family members belong to three generations.
 - (b) Each member has a distinct choice of colour among green, yellow, black, white, red and blue.
 - (c) No lady member likes green or white colour.
 - (d) C, who likes black colour is the daughter-in-law of E.
 - (e) B is the brother of F and son of D and he likes blue.
 - (f) A is grandmother of F and F does not like red.
 - (g) There is a man liking green and his wife likes yellow colour.
- Q.5** Which of the following is one of the married couples?
 (a) CD (b) DA
 (c) AC (d) none of these.
- Q.6** How many male members are there in the family?
 (a) 2 (b) 3
 (c) 4 (d) 1
- Q.7** F is the
 (a) Brother of B
 (b) Sister of B
 (c) cannot be determined
 (d) none of these

- Q.8** Which one is the colour preference of A?
 (a) Red
 (b) Yellow
 (c) Red or yellow
 (d) cannot be determined

Directions for questions 9 to 12: Read the passage below and solve the questions based on it.

- (i) In a family of six members A, B, C, D, E and F each one plays one game out of the six games snooker, Carom, Table Tennis, badminton, Bridge and Cricket.
 - (ii) Two are married couple.
 - (iii) B who plays carom, is daughter in law of E.
 - (iv) A is the father of D, the Table Tennis player, and D is father of C, who plays cricket.
 - (v) F is the brother of (c)
 - (vi) Snooker is not played by a female member.
 - (vii) E's husband plays Badminton.
- Q.9** Who among them plays bridge?
 (a) E (b) F
 (c) A (d) Data Inadequate
- Q.10** How is F related to A?
 (a) Granddaughter (b) Grandson
 (c) Son (d) Daughter
- Q.11** Who is husband of B?
 (a) D
 (b) A
 (c) C
 (d) cannot be determined
- Q.12** How many male members are there in the family?
 (a) Two only (b) Three only
 (c) Four only (d) Data inadequate
- Directions for question 13 to 15: Read the information given below and solve the questions based on it.**
- M, N, O and P are all distinct individuals. Following points give the details of their relationship:
- I. M is the daughter of N.
 - II. N is the son of O.
 - III. O is the father of P.
- Q.13** Which of the following statements is true?
 (a) O is the uncle of M.
 (b) P and N are brothers.
 (c) M is the daughter of P.
 (d) If B is the daughter of N, then M and B are sisters.
- Q.14** Which among the following statements is contradictory to the above premises?
 (a) P is the father of M.
 (d) O has three children.

- (c) M has one brother.
(d) M is the granddaughter of O.

- Q.15** If B is the son of N and B has one brother, D, then
I. M is the sister of (D)
II. D and N are brothers.
III. O is the grandfather of (D)
(a) I only (b) II only
(c) III only (d) I and III only

Directions for questions 16 to 18: Read the passage below and solve the questions based on it.

- (i) In a joint family of seven persons A, B, C, D, E, F and G, there are two married couples.
(ii) G is a housewife and her husband is a lawyer. 'C' is the wife of 'B', 'A' is an engineer and is granddaughter of 'G'. 'D' is the father-in-law of 'C', a doctor, and father of 'E', a Professor. 'F' is A's brother and B's son.

- Q.16** How is F related to C?
(a) Son (b) Brother
(c) Daughter (d) Data inadequate
- Q.17** How is B related to E?
(a) Sister (b) Uncle
(c) Cousin (d) None of these
- Q.18** Who is a lawyer?
(a) B
(b) F
(c) D
(d) cannot be determined

Directions for questions 19 to 20: Go through the information given below and solve the questions based on it.

Prakash, Qureshi, Rajesh and Shabdesh live together in a house.

- I. Prakash lives with his (or her) parents.
II. Qureshi lives with at least 3 persons younger than him (or her).
III. Shabdesh lives with his mother, and is older than at least 2 persons living with him.
IV. Rajesh lives with his (or her) son and is not older than Shabdesh.

- Q.19** Total number of persons in that house is ____.
(a) 3 (b) 4
(c) 5 (d) 6

- Q.20** Qureshi is Prakash's ____.
(a) father (b) mother
(c) son (d) grandmother

- Q.21** A @ B means A is the sister of B
A \$ B means B is the mother of A
A + B means A is the brother of B
A = B means B is the father of A.

Which of the following means M is the maternal uncle of N?

- (a) $M = P + Q @ N$ (b) $N + P = Q @ M$
(c) $N @ P \$ Q @ M$ (d) None of these

- Q.22** $M \times N$ means M is the daughter of N;
 $M + N$ means M is the father of N;
 $M \% N$ means M is the mother of N
 $M - N$ means M is the brother of N.

Given that $P \% Q + R - T \times K$, what is the relation of P to K?

- (a) Daughter-in-law (b) Sister-in-law
(c) Aunt (d) None of these

- Q.23** $P + Q$ means P is the brother of Q;
 $P \times Q$ means P is the father of Q
 $P - Q$ means P is the sister of Q.

Which of the following relations shows that I is the niece of K?

- (a) $K + Y + Z - I$ (b) $K + Y \times I - Z$
(c) $Z - I \times Y + K$ (d) $K \times Y + I - Z$

- Q.24** Pointing towards a girl, Mohit says, "This girl is the daughter of only a child of my father." What is the relation of Mohit's wife to that girl?
(a) Daughter (b) Mother
(c) Aunt (d) Sister

- Q.25** A \$ B means B is the father of A;
A # B means B is the mother of A;
A & B means B is the sister of A
A @ B means B is the husband of A

Which of the following indicates that N is the grandmother of P?

- (a) $P \& Q \# M \$ N$ (b) $P @ Q \$ M \# N$
(c) $P \# Q \$ N \& M$ (d) None of these

ANSWER KEYS

1. (d) 2. (a) 3. (c) 4. (a) 5. (a) 6. (c) 7. (a) 8. (b) 9. (a) 10. (b)
11. (a) 12. (d) 13. (d) 14. (a) 15. (d) 16. (a) 17. (d) 18. (c) 19. (b) 20. (d)
21. (d) 22. (d) 23. (b) 24. (b) 25. (d)

HINTS AND SOLUTIONS

1 to 4

1. The girl's maternal uncle and the boy's mother are siblings because they have the same father. Hence the boy is either the brother of the girl if the boy's mother and the girl's mother is the same, or the boy is the cousin of the girl if there is/are any more sibling/s of the boy's mother other than the maternal uncle of the girl. Thus, the correct option is cannot be determined.

Hence, option (d) is the correct answer.

2. The man is himself the only son of his parents and the girl who he is pointing to in the photograph is his daughter.

Hence, option (a) is the correct answer.

3. The father of X's father is his grandfather. Moreover, X and the granddaughter mentioned in the question are siblings. Hence her husband i.e. Y is the brother-in-law of X.

Hence, option (c) is the correct answer.

4. "The wife of my husband" refers to Ritika, hence her daughter's brother will be her son. Thus the man on the stage is the son of Ritika.

Hence, option (a) is the correct answer.

5 to 8

According to the sixth condition F is of third generation as he/she has a grandmother A. B is the brother of F and is of the same generation. Now there are three people left viz. E, D and C out of which one is of the first while two are of the second generation.

From the fourth condition we can say that C is of second generation as she is the daughter in law of E who is in turn is the husband of A. The person left is D who automatically is the husband of C.

B likes blue colour. C likes black so the lady who likes yellow is A and his husband E likes green. F doesn't like red so D is the person who likes red and F likes white.

5. From the above information the married couple is CD.

Hence, option (a) is the correct answer.

6. The male members are E, D, B and F(as a female cannot like white but F likes white hence he is male).

Hence, option (c) is the correct answer.

7. F likes white hence is not a female, thus will be the brother of B.

Hence, option (a) is the correct answer.

8. According to the above solution the colour preference of A is yellow.

Hence, option (b) is the correct answer.

9 to 12

In this question there are three generations. A is from the first generation and has a son D who in turn is the father of

C. C is from the third generation who has a brother F. Now from the third statement it is clear that E is from the first generation and is the wife of A as there are two married couples. B is the daughter in law of E and D is the son of A, so B is the wife of D.

B plays carom, D plays table tennis, C plays cricket, A plays badminton. Now from the sixth statement it can be inferred that as a female does not play snooker hence it will be played by F and the remaining game i.e bridge will be played by E.

9. E plays bridge.

Hence, option (a) is the correct answer.

10. As A is the father of D and F is the son of D hence F is the grandson of A.

Hence, option (b) is the correct answer.

11. The husband of B is D.

Hence, option (a) is the correct answer.

12. As the gender of C is not known, hence the number of male members cannot be determined.

Hence, option (d) is the correct answer.

13 to 15

13. As from the three statements it is clear that O is the grandfather of M and is the father of P and N. So, the first option is wrong.

The gender of P is not known so we can't say that P and N are brothers. Thus the second option is also invalid.

As M is the niece of P hence cannot be the daughter of P, so third option is also incorrect.

Now if B is the daughter of N, then N will have two children M and B, both of which are females, thus will be sisters. Hence the fourth option is correct.

Hence, option (d) is the correct answer.

14. The first option is contradictory as P is either the uncle or aunt of M, not the father of M. The rest options can be correct if there is some additional information, but the first option is completely contradictory.

Hence, option (a) is the correct answer.

15. If B is the son of N and has a brother D, then M is the sister of D and O is the grandfather of D. Hence the first and the third statements are correct.

Hence, option (d) is the correct answer.

16 to 18

C is the wife of B, B has a son F and a daughter A as A is the granddaughter of G. G is the mother of B. As D is the father in law of C, hence D is the husband of G. D is the father of B and E.

Also, E is a professor, D is a lawyer (G's husband is a lawyer), G is a housewife, A is an engineer, C is a doctor.

16. From the above information B is the father of F, and the husband of C. Hence, F is the son of C.

Hence, option (a) is the correct answer.

17. B is the brother of E.

Hence, option (d) is the correct answer.

18. D is the lawyer.

Hence, option (c) is the correct answer.

19 to 20

We are given 4 names. We cannot determine the gender of a person by name only. Prakash lives with his (or her) parents. So, at least 2 people are older than him (or her). Qureshi lives with 3 persons younger to him (or her). We also know Shabdesh lives with his mother & is older than at least 2 people living with him. So, his gender is Male & his mother must be Qureshi. Now, Rajesh lives with his (or her) son & is not older than Shabdesh. So, she must be female & wife of Shabdesh & mother of Prakash. So, we get in order of age (1 is eldest):

1. Qureshi (female) – Mother of Shabdesh
2. Shabdesh (male) – Son of Qureshi, Husband of Rajesh & Father of Prakash
3. Rajesh (female) – wife of Shabdesh & mother of Prakash
4. Prakash (male or female) – son or daughter of Shabdesh & Rajesh

19. There are total 4 persons in the house

Hence, option (b) is the correct answer.

20. Qureshi is Prakash's grandmother

Hence, option (d) is the correct answer.

21. According to the first option M is the father of P, Q and N.

The second expression states that N is the brother of P, who is the father of Q, who is the sister of M. Hence N is the maternal uncle of M.

From the third option it can be seen that N is the sister of P, who is the mother of Q, who is the sister of M. Thus, N is the maternal aunt of M.

None of the above option shows that M is the maternal uncle of N.

Hence, option (d) is the correct answer.

22. According to the expression P is the mother of Q, who is the father of R, who is the brother of T, who is the daughter of N. P is the mother of Q and K is the wife of Q, hence P is the mother-in-law of K. Hence the answer is none of these.

Hence, option (d) is the correct answer.

23. According to the second expression K is the brother of Y, who is the father of I. Hence K is the uncle of I. Also I is the sister of Z, thus it can be said that I is the niece of K.

Hence, option (b) is the correct answer.

24. The only child of Mohit's father is Mohit himself and the girl is his daughter. Hence Mohit's wife will be the mother of the girl.

Hence, option (b) is the correct answer.

25. From the first expression P is the maternal aunt of M, who is the father of N. Thus, P is the grandmother of N.

The second option says that P is the husband of Q and Q is the father of M, which is not possible because if P and Q is a couple then both of them cannot be males.

Third expression states that P is the mother of Q and Q is the father of N, hence P is the grandmother of N, not vice versa.

Hence none of the given options is correct.

Hence, option (d) is the correct answer.