Blood relations

Introduction to Blood relations

Blood relation is one of the most important topics of logical reasoning and found its importance in almost every entrance exam. This topic tests the analytical skills of the students and their solution approach. The questions asked in this chapter depend upon 'Relations'. You should have a sound knowledge of the blood relation in order to solve the questions.

To remember easily, the relation may be divided into two forms:

Relation of the paternal side

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

Relation of the maternal side

Mother's father	Maternal Grandfather
Mother's mother	Maternal Grandmother
Mother's brother	Maternal Uncle
Mother's sister	Aunt
Children of maternal uncle	Cousin
Wife of maternal uncle	Maternal Aunt
Children of the maternal aunt	Cousin
Husband of the maternal aunt	Maternal Uncle

Others

Son's wife → Daughter-in-law
Daughter's husband → Son-in-law
Husband's (or) wife's father → Father-in-law
Husband's (or) wife's mother → Mother-in-law
Husband's (or) wife's brother → Brother-in-law
Husband's (or) wife's sister → Sister-in-law
Sister's husband → Brother-in-law
Brother's (or) sister's son → Nephew
Brother's (or) sister's daughter → Niece

Son’s wife	Daughter-in-law
Daughter’s husband	Son-in-law
Husband’s (or) wife’s father	Father-in-law
Husband’s (or) wife’s mother	Mother-in-law
Husband’s (or) wife’s brother	Brother-in-law
Husband’s (or) wife’s sister	Sister-in-law
Sister’s husband	Brother-in-law
Brother’s (or) sister’s son	Nephew
Brother’s (or) sister’s daughter	Niece

Relations from one generation to other

Generation1: Grandfather, Grandmother, Maternal grandfather, Maternal grandmother
Generation 2: Mother, Father, Uncle, Aunt, Maternal uncle, Maternal aunt
Generation 3: Self, Sister, Sister-in-law, Brother, Brother-in-law
Generation 4: Son, Daughter, Nephew, Niece

Symbols

1. ‘+’ for male 2. ‘-’ for female 3. ‘⇔’ for couples

Types of problem statements

Type 1: Statement based relationship questions

Problem 1:
Pointing to a lady on the stage, Sonali said, “She is the sister of the son of the wife of my husband.” How is the lady related to Sonali?
Solution:
My husband = Sonali’s husband
Wife of my husband = is me = Sonali
Son of the wife of my husband = My Son
Sister of the Son of the wife of my Husband = My Son’s Sister = My daughter
So, the lady on the stage is Sonali’s daughter.

Problem 2:
Eeshas father was 34 years of age when she was born. Her younger brother, Shashank, now that he is 13, is very proud of the fact that he is as tall as her, even though he is three years younger than her. Eeshas mother, who is shorter than Eesha, was only 29 when Shashank was born. What is the sum of the ages of Eeshas parents now? **(asked in TCS)**

a) 92
b) 76
c) 66
d) 89

Answer: a) 92
Solution:Let Eesha's present age be x.
Eesha's father's present age = x + 34
Shashank's age = 13
Eesha's present age = 13 + 3 = 16
Eesha's mother's present age = 29 + 13 = 42
Sum of the ages of Eeshas parents now = 42 + 16 + 34 = 92

Problem 3:
Pointing to a lady a man said, “Her husband is the only son of my mother”. How is the lady related to the man?
Solution:

My mother's only son = is me (man)
Her husband = is me
So, the lady is Man's wife.

Problem 4:
Pointing to Alex, Lita says, "I am the daughter of the only son of his grandfather." How Lita is related to Alex? **(Asked in Sapient)**

a) Niece
b) Daughter
c) Sister
d) Cannot be determined

Answer: C) Sister
Solution:
Lita is the daughter of the only son of Alex's grandfather. Hence, it's clear that Lita is the sister of Alex.

Problem 5:
Pointing to a man Manisha said, "He is the youngest son of my father-in-law's only son". How is Manisha related to this youngest son's father?

a) Sister
b) Sister-in-law
c) Wife
d) Mother

Solution:
Manisha's father in law's only son = Manisha's husband
The youngest son of my father-in-law's only son is my husband's son = My son = Manisha's son
So, Manisha is the **wife** of the youngest son's father

Type 2: Puzzle type questions with a family relationship component

Problem 1:

A family consists of a husband and wife, their three sons and two daughters, three wives of three sons. How many females are in this family? **(Wipro hiring 2018)**

Solution:

Husband wife (female)

Three sons = S1 S2 S3 and two daughter = D1 D2

Son's wives = W1 W2 W3

So, the total number of females = wife + D1 + D2 + W1 + W2 + W3 = 6 females.

Directions for problem 2 to 6:

If a + b means, a is the daughter of b,

a - b means, a is the husband of b,

a×b means, a is the brother of b.

Problem 2:

What does the relation p×q - r show?

(a) p is the son-in-law of r

(b) p is the brother of r

(c) r is the wife of p

(d) None of these

Solution:

p×q means p is the brother of q

q - r means, q is the husband of r i.e.

p is the brother-in-law of r or r is the sister-in-law of p.

So the answer to this question is an option (d).

Problem 3:

If h+i×j+k×l+m×n, then what is the present generation of h. Assume that the oldest generation of this group is 1st generation.

(a) 2nd (b) 3rd

(c) 1st (d) 4th

Solution:

Here symbol '+' is for a generation change.

m×n = m is the brother of n (1st generation)

l+m = l is the daughter of m (2nd generation)

k×l = k is the brother of l

j+k = j is the daughter of k (3rd generation)

i×j = i is the brother of j
h+i = h is the daughter of i (4th generation)
Hence, present generation of ‘h’ = 4th generation i.e. option (d)

Problem 4:
Which of the following options does not hold?

(a) a+b×c
(b) a-b×c
(c) a+b+c
(d) a+b-c

Solution:

(a) a+b×c, here ‘b’ is the brother of ‘c’ i.e ‘b’ is a male and ‘a’ is the daughter of ‘b’. This option is correct.
(b) a-b×c, here ‘b’ is the brother of ‘c’ i.e ‘b’ is a male and ‘a’ is the husband of ‘b’ This option can not hold. ‘a’ can’t be the husband of ‘b’, because ‘b’ comes out a male.

Problem 5:
From the statement a×b×c×d, which of the following statements is not necessarily true?

(a) ‘b’ is the brother of ‘a’
(b) ‘c’ is the brother of ‘a’
(c) ‘d’ is the brother of ‘c’
(d) a,b,c are male

Solution:
a×b×c×d, here ‘c’ is the brother of ‘d’, ‘b’ is the brother of ‘c’ and ‘a’ is the brother of ‘b’
So, here a,b,c are males.
Option (c) ‘d’ is the brother of ‘c’ is not necessarily true because we don’t know whether ‘d’ is male or not.

Problem 6:
From the statement p-q+r×s, how is ‘q’ related to ‘s’?

(a) Niece
(b) Sister
(c) Daughter
(d) Brother

Solution:
r×s = ‘r’ is the brother of ‘s’ (‘r’ is male)
q+r = ‘q’ is the daughter of ‘r’(‘q’ is a female)
p-q = ‘p’ is the husband of ‘q’
So from the above conclusion, ‘q’ is the niece of ‘s’ i.e. option (a) is the correct answer.

Directions for questions 7 to 8.
a*b means ‘a’ is the brother of ‘b’
a@b means ‘a’ is the daughter of ‘b’
a$b means ‘a’ is the sister of ‘b’

Problem 7:
Which of the following show the relationship ‘p’ is the paternal uncle of ‘c’?

(a) n $ o @ p
(b) n @ o $ p
(c) n @ o * p
(d) None of these

Solution:

(a) n $ o @ p
o @ p = ‘o’ is the daughter of ‘p’ and n $ o = ‘n’ is the sister of ‘o’
So, here ‘p’ is either the father or the mother of ‘n’.

(b) n @ o $ p
o $ p = ‘o’ is the sister of ‘p’ and n @ o = ‘n’ is the daughter of ‘o’
So, ‘p’ is either uncle or aunt of ‘n’ because the gender of p can not be determined.
Hence, the answer will be an option (d).

Problem 8:
abc@d@e*f*g, then how many males and females are there respectively?

(a) 4,3
(b) 3,4
(c) 5,2
(d) Can’t be determined

Solution:

f*g = ‘f’ is the brother of ‘g’ (i.e. ‘f’ is a male)

e*f = ‘e’ is the brother of ‘f’ (i.e. ‘e’ is a male)

d@e = ‘d’ is the daughter of ‘e’ (i.e. ‘d’ is a female)

c@d = ‘c’ is the daughter of ‘d’ (i.e. ‘c’ is a female)

b$c = ‘b’ is the sister of ‘c’ (i.e. ‘b’ is a female)

a$b = ‘a’ is the sister of ‘b’ (i.e. ‘a’ is a female)

Here we can not find the gender of ‘g’.

Here 4 women and 2 men but we can't find the gender of one person.

So, the answer is can’t be determined, option(d)