

GATE



ALL BRANCHES

GENERAL APTITUDE

Analytical Aptitude



Lecture No: 1

By-Amulya Ratan Sir





TOPICS TO BE COVERED



Understanding Concept



Rules for Answering



Limitations of Relations



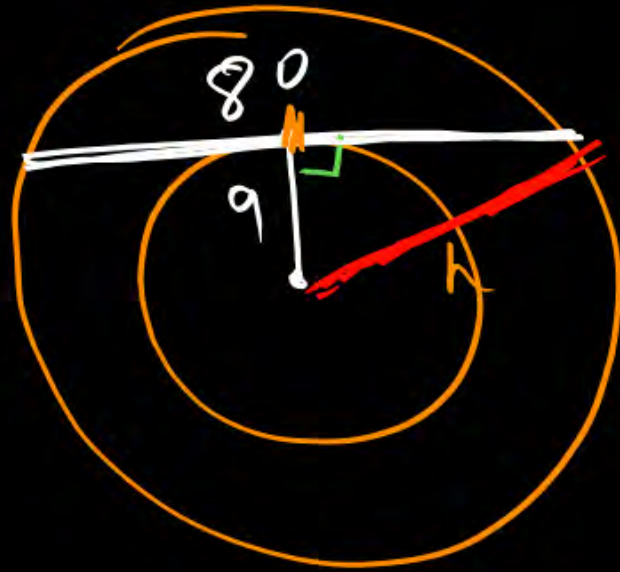
Practice Questions



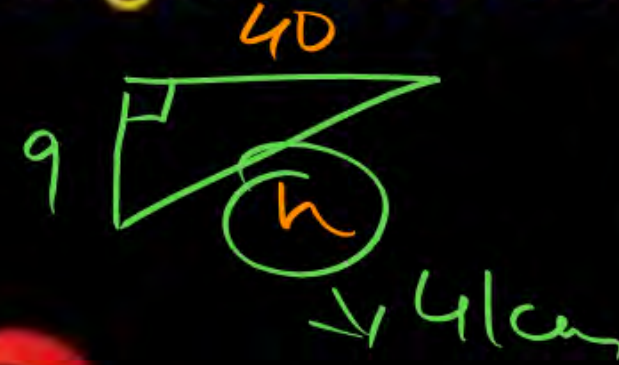
In two concentric circles, a chord length 80 cm of larger circle becomes a tangent to the smaller circle whose radius is 9 cm. The radius of the larger circle will be?



A. 13 cm



B. 41 cm



Assignment



C. 52 cm



D. 75 cm

$$h^2 = 9^2 + 40^2$$

$$h = \sqrt{81 + 1600}$$

$$h = \sqrt{1681} = 41 \text{ cm}$$



Q. The diagonal of a rectangle is $\sqrt{41}$ cm and its area is 20 sq cm. The perimeter of the rectangle is?

$$(l+b)^2 = 41 + 40 = 81$$

$$P = 2(l+b) = 2 \times 9 = 18 \text{ cm}$$

Assignment



A. 9 cm

$$l+b = \sqrt{81}$$

$$= \underline{\underline{9}}$$



B. 18 cm



C. 20 cm



D. 41 cm

$$(l+b)^2 = l^2 + b^2 + 2lb$$

$$(l+b)^2 = 41 + 2 \times 20$$

$$l^2 + b^2 = (\sqrt{41})^2$$

$$\underline{\underline{l^2 + b^2 = 41}}$$

$$lb = \underline{\underline{20}}$$



Line Graph:

Study the following graph carefully and answer the questions:



Marks scored by a student out of 500 in the Unit test held at different months of academic year 2019



Q. What is the percentage of marks scored by the student in the unit test of August and October taken together?



A. 50%



B. 83.3%



C. 60%



D. 75.5%

$$\frac{755}{1000}$$

$$75.5\%$$



Marks scored by a student out of 500 in the Unit test held at different months of academic year 2019



Q. What are the average of marks obtained by the student in the unit test of given academic year?



A. 361.6

$$= \frac{2285}{6}$$



B. 380.8

$$= 380.83$$



C. 377.5



D. 400.0



Marks scored by a student out of 500 in the Unit test held at different months of academic year 2019

BLOOD RELATIONS

Maternal
Paternal

Grandson/Grand
daughter

Forefather

Mother - Father

Brother - Sister

Uncle - Aunt

G.F / G.M

Son / daughter

Great G.F / G.M
husband wife

Nephew Niece

Cousins





(parent)

~~Maternal~~

~~Paternal~~

(child)

Mother : Father

Brother : Sister

Uncle : Aunt

Grand Father : Grand Mother

Grand son : Grand daughter

(Grand Child)

(Sibling)

(Grandparent)

Son : Daughter

Cousins

Nephew : Niece

Husband : wife

A is son of B

(Spouse)

Great Grand Father : Great Grand Mother

Forefather / Ancestors

Generations:



G.F/G.M → G.G.T / Grandfather

Mother/Father → Uncle / Aunt

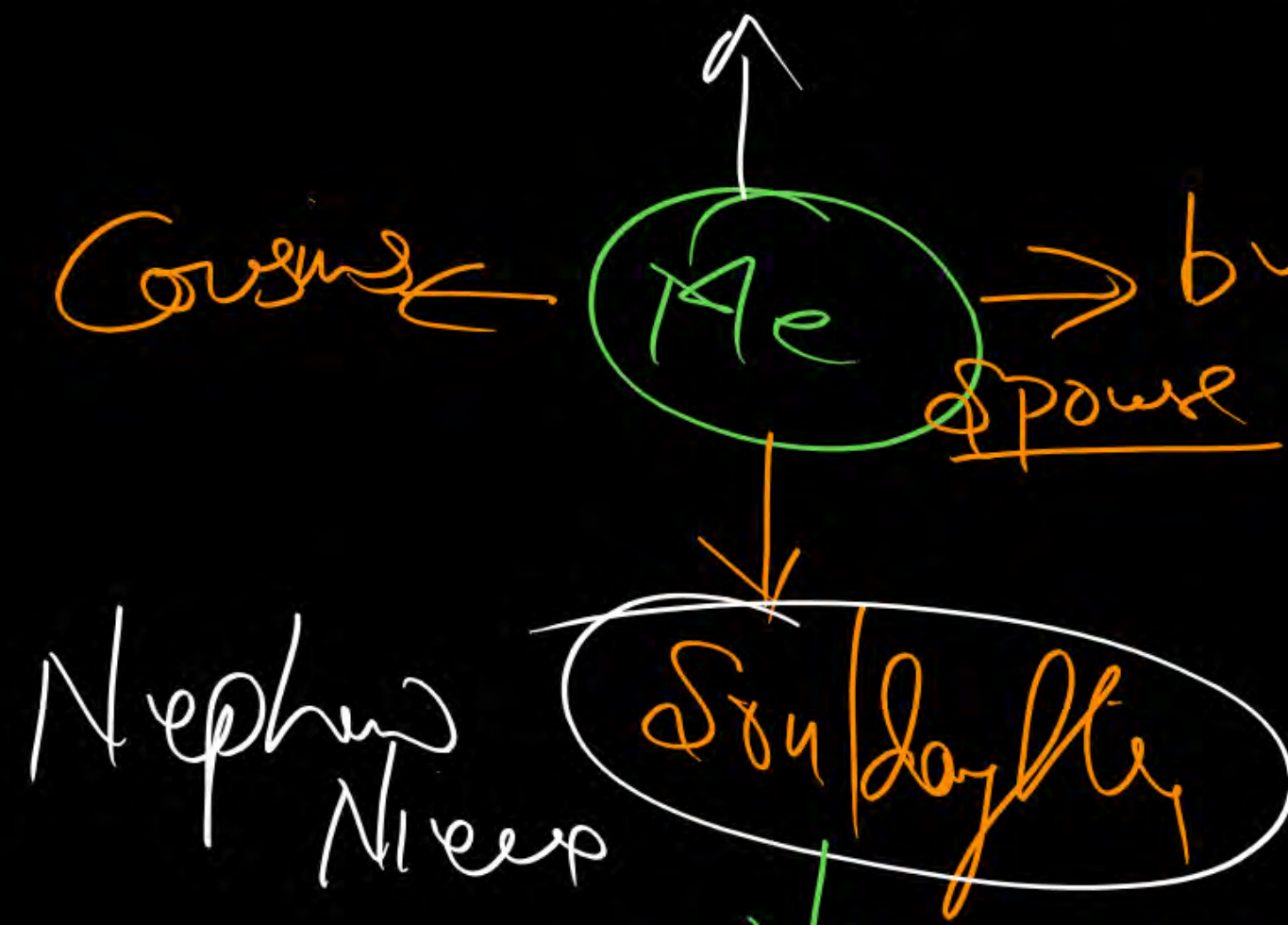
1st

2nd

3rd

4th

5th



Family Tree:



A ~ B

B ~ A

⊗

⊕

⊖





Sister in law

Father in law

Mother in law

brother in law

son in law
daughter in law

Before Marriage



After Marriage





In laws:



Spouse Mother = Mother in law
Spouse Father = Father in law
Spouse Brother = Brother in Law
Spouse Sister = Sister in law

Son in Law
Daughter in Law

Spouse son = son
Spouse daughter = daughter



Q.

Pointing to a boy in the photograph Manasa said, "His sister is the only daughter of my father". How is the boy related to Manasa's father?

me



A.

Father



B.

Brother



C.

Son



D.

Cousin



Pointing to Neha, Mahesh said, "Her mother's only daughter is my daughter". How is Mahesh related to Neha?

Neha



Brother



Son



Uncle



Father





A is brother of B. B is wife of C. C is son of D.
D is wife of F. Then what is B to F?



Son-in-law



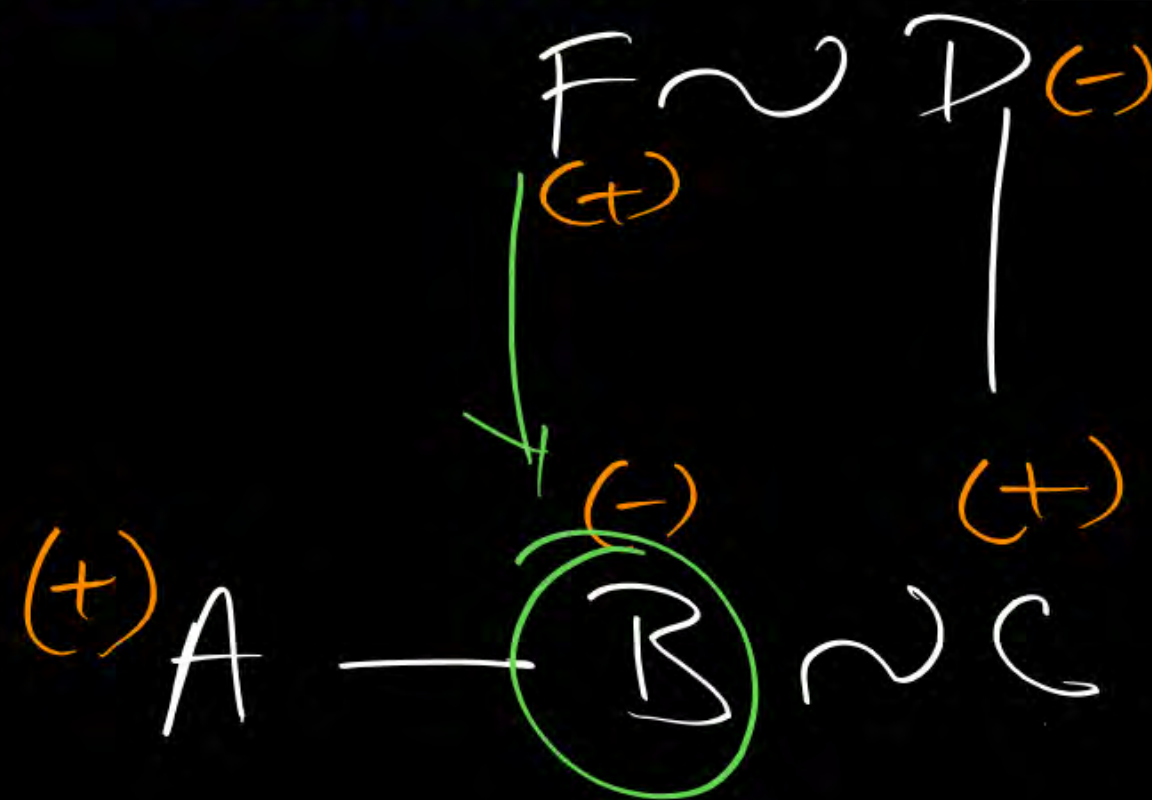
Daughter-in-law



Cousin



None of these





Pointing towards a person in a photograph, Raman said, "She is the only daughter of the mother of my brother's sister". How is that person related to Raman?

my sis



Uncle



Mother



Father



Sister



Q. If Neena says, "Anita's father Raman is the only son of my father-in-law Mahipal", then how is Bindu, who is the sister of Anita, related to Mahipal?



Daughter



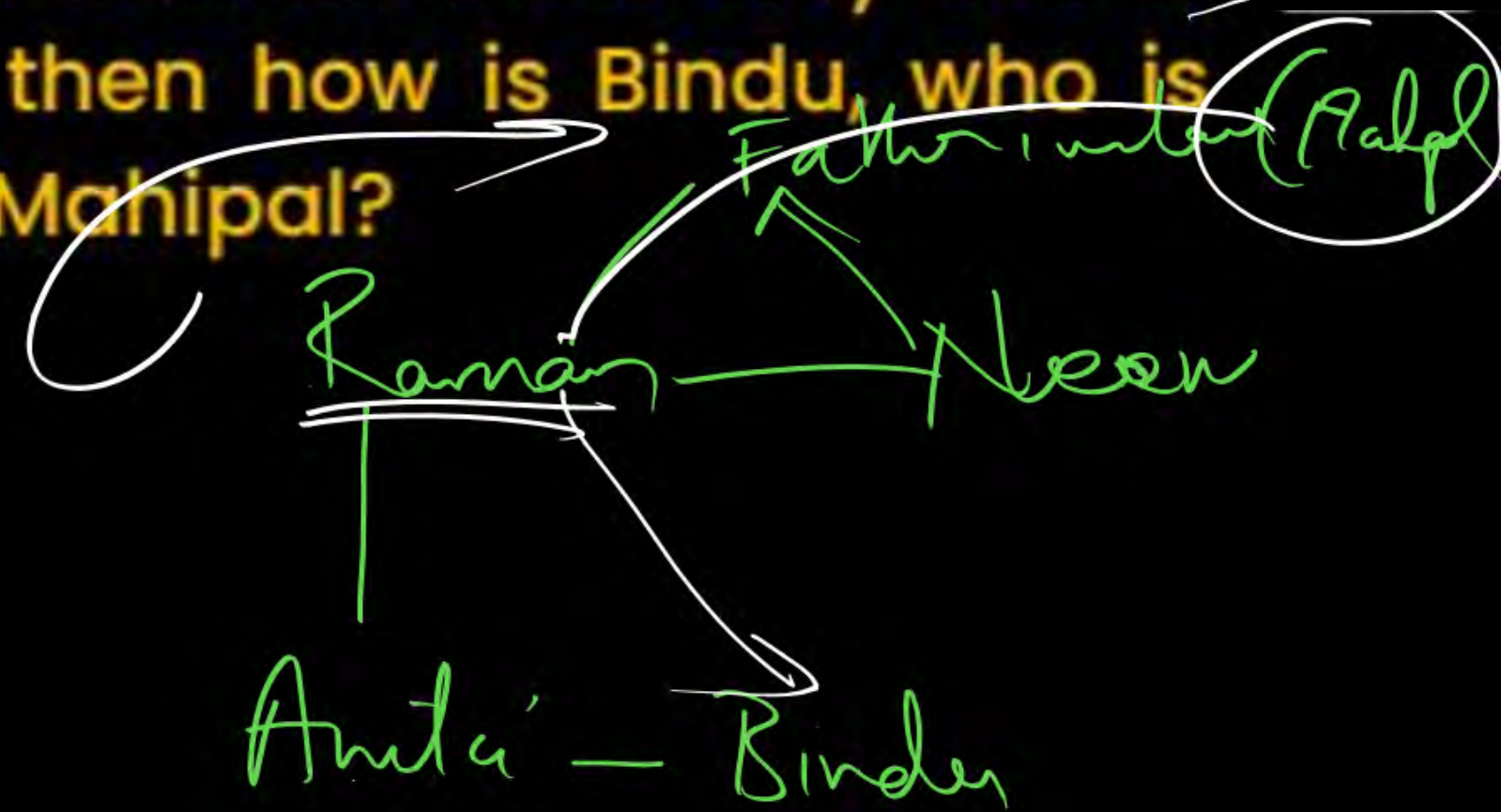
Wife



Daughter-in-law



None of these



Grand Daughter



Pointing to a photograph, a woman says, "This man's son's sister is my mother-in-law." How is the woman's husband related to the man in the photograph?



A. Son



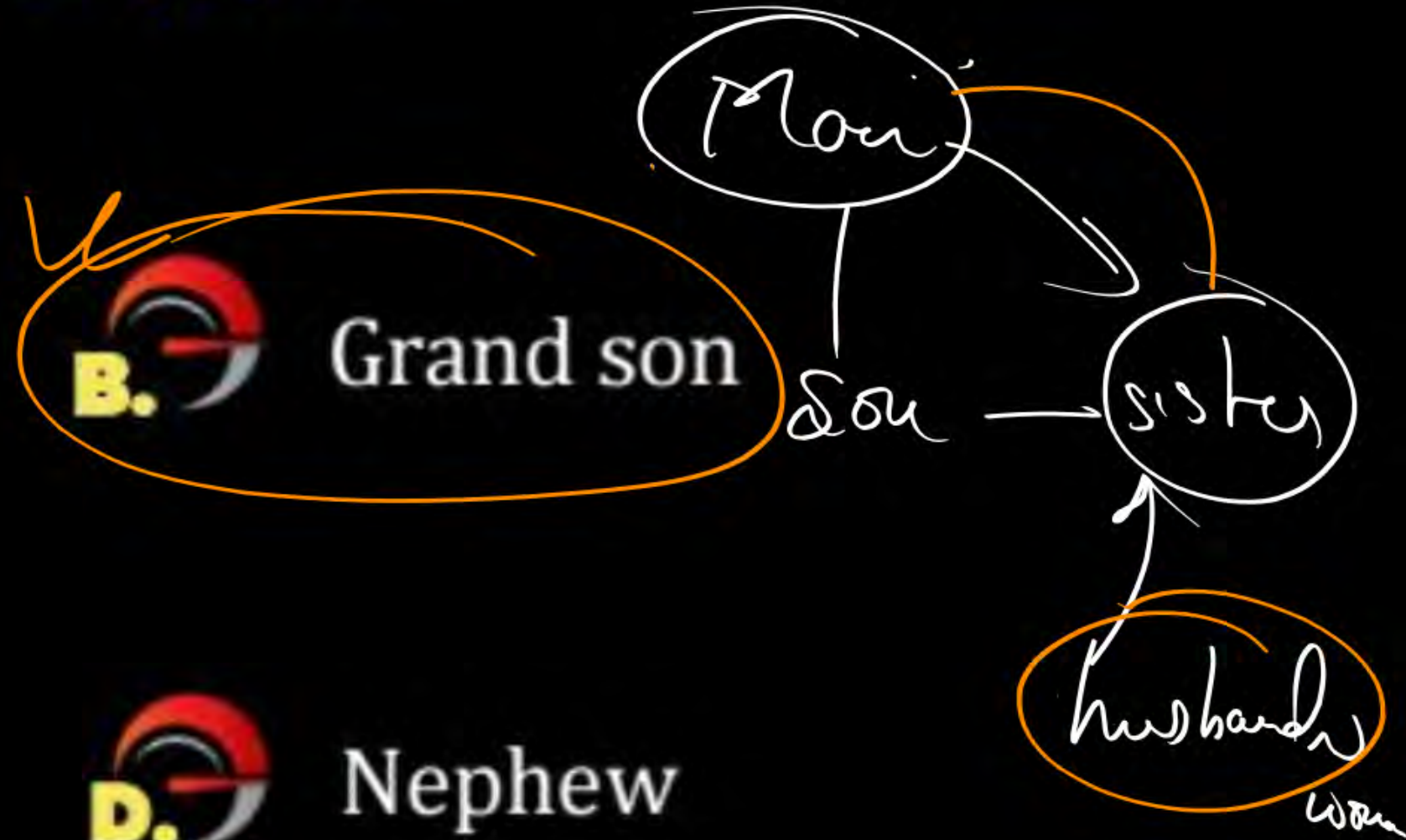
C. Son-in-law



B. Grand son



D. Nephew



Q. When Amit saw Manoj, he recalled and said "He is the son of the father of the mother of my daughter". What is Manoj to Amit?

father in law

my wife

A. Brother-in-law

B. Brother

C. Cousin

D. Uncle

father X + Y

Direction:

Q.

$X+Y$ means X is the father of Y, $X-Y$ means X is the wife of Y, $X \times Y$ means X is the brother of Y, $X \div Y$ means X is the daughter of Y.

A \times B - C means -----

A.

A is brother-in-law of C

B.

A is the husband of C

C.

A is the son of C

D.

None of these



Q.

Direction: $X+Y$ means X is the father of Y, $X-Y$ means X is the wife of Y, $X \times Y$ means X is the brother of Y, $X \div Y$ means X is the daughter of Y.

In $A \times B \div C$, which of the following statement is true?



A.

A is the uncle of C



B.

A is the father of C



C.

A is the son of C



D.

A is the brother of C

Assignment



Q.

Rohit said to Mohit, "The boy playing basket ball is younger brother of the two brothers of the daughter of my father's wife". How is the boy playing basket ball related to Rohit?



A.

Brother-in-law



B.

Nephew



C.

Cousin



D.

Brother

Assignment



Q. Introducing Swapna, Madhavi said, "She is the only daughter of my father's only daughter". How is Madhavi related to Swapna?



Niece



Aunt



Cousin



None

Assignment



Q. A, the son of B was married to C, whose sister D was married to E, the brother of A. How is D related to B?



Daughter-in-law



Sister



Cousin



Sister-in-law

Assignment

