

Triangles

Quick Study Guide

HOW TO

USE THIS GUIDE

HIGHLIGHTED TEXT SHOWS IMPORTANT POINTS



MARKS HIGH-FOCUS TOPICS



INDICATES EXAM TIPS



SHOWS COMMON ERRORS



GIVES QUICK TIPS

SIMILAR TRIANGLES

Mnemonic: "SAME SHAPE"

- S** - Similar angles
A - All corresponding
M - Measure ratios
E - Equal angles
S - Sides proportional
H - Height ratio same
A - : Angles equal
P - Proportions match
E - Everything scaled

Remember As:

PHOTO COPY

- * Like photo resize:
- * Shape same rehta hai
- * Size changes
- * Angles same
- * Sides proportional

Common Errors

- * Wrong corresponding sides
- * Angle pairs missing
- * Ratio confusion
- * Proportion mistakes

SIMILARITY CRITERIA

Mnemonic: "AAA PAPA"

- A** - All angles equal
A - Angles corresponding
A - Angle-Angle-Angle
P - Proportional sides
A - Angle included
P - Parallel bases
A - All sides ratio

THREE RULES

TEEN RULES:

1. AAA:

- * All angles equal
- * Automatically similar

2. SAS:

- * Two sides proportional
- * Included angle same

3. SSS:

- * All sides proportional
- * In same order

BASIC PROPORTIONALITY

Mnemonic: "THALES BOSS"

T
H
A
L
E
S

- Two lines cut
- Horizontal line
- All parts ratio
- Line parallel
- Equal ratios
- Similar parts

B

O

S

S

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S

- Basic theorem
- Observe ratio
- Similar triangles
- Same proportion

QUICK RULE

LINE GAME

- * Line || to base
- * Cuts other sides
- * Makes similar triangles
- * Ratio remains same

EXAMPLE

- * If DE || BC
- * Then AD/DB = AE/EC
- * And DE/BC = AD/AB

PYTHAGORAS THEOREM

Mnemonic: "SQUARE RULE"

S
Q
U
A
R
E

- Square of hypotenuse
- Quite important
- Use in right angle
- Add squares
- Right triangle
- Equal to sum

R

U

L

E

E

E

E

E

E

E

E

E

E

E

E

E

- Right angle must
- Use formula
- Learn well
- Easy to use

REMEMBER AS:

SAMOSIA RULE

- * Like samosa shape:
- * Longest side² =
- * Base² + Height²
- * a² = b² + c²

EXAMPLES:

- * If base = 3, height = 4
- * Hypotenuse² = 3² + 4²
- * 5² = 9 + 16 = 25
- * Hypotenuse = 5

TRIGONOMETRIC RATIOS

Mnemonic: "SOME PEOPLE HAVE"

S
O
M
E

- sin θ = P/H
- Opposite/Hypotenuse
- Main ratios
- Easy remember

P

H

- Perpendicular/Base
- Hypotenuse use

FOURmula MAGIC:

CHA PAH TOH

- * cos θ = Adjacent/Hypotenuse
- * sin θ = Perpendicular/Hypotenuse
- * tan θ = Perpendicular/Adjacent

HINDI VERSION

"CHOTA BADA"

- * Chota side/Bada side
- * Opposite/Hypotenuse
- * Always ratio form

AREA FORMULAS

Mnemonic: "AREA KING"

A
R
E
A

- Area formulas
- Remember base
- Equal to half
- : Apply height

K

I

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- Keep base clear
- Into height
- Note formula
- Good practice

QUICK FORMULAS:

HALF LIFE

- Area = $\frac{1}{2} \times \text{base} \times \text{height}$
- Area = $\frac{1}{2} \times a \times b \times \sin C$
- Area = $\sqrt{s(s-a)(s-b)(s-c)}$

Where s = $(a+b+c)/2$

: APPLICATIONS

Mnemonic: "LIFE MEIN AP"

- D** - Distance problems
A - Area calculation
I - Important uses
L - Length finding
Y - Your surroundings
L - Look around
I - In buildings
F - Find heights
E - Easy examples

REAL EXAMPLES:

CHAR SE

1. Building height
2. Tree distance
3. River width
4. Tower problems
5. Shadow length

QUICK REVISION CHECKLIST

Before Exam:

- ✓ Similarity criteria
- ✓ Basic proportionality
- ✓ Pythagoras theorem
- ✓ Trigonometric ratios
- ✓ Area formulas
- ✓ Applications
- ✓ Constructions

Scoring Tips:

1. Draw neat diagrams
2. Mark all angles
3. Show calculations
4. Write proper ratios
5. Check proportions

100%

HIGH FOCUS AREAS

1. Similar Triangles (5 marks)
2. Similarity Criteria (5 marks)
3. Pythagoras Theorem (5 marks)
4. Trigonometry (4 marks)
5. Applications (4 marks)

PROBLEM SOLVING TIPS

Mnemonic: "SOLVE KARO"

- S** - See given data
O - Organize info
L - List formulas
V - Verify similar
E - Equation form

- K** - Keep checking
A - All angles mark
R - Ratios verify
O - Order maintain

GOOD LUCK!

