SSBCrack EXAMS

CDS 1 2025

MATHS

LIVE

GEOMETRY

CLASS 3

NAVJYOTI SIR

7 Nov 2024 Live Classes Schedule

8:00AM	07 NOVEMBER 2024 DAILY CURRENT AFFAIRS	RUBY MA'AM
9:00AM	07 NOVEMBER 2024 DAILY DEFENCE UPDATES	DIVYANSHU SIR

SSB INTERVIEW LIVE CLASSES

9:30AM	OVERVIEW OF PPDT & PRACTICE	ANURADHA MA'AM

NDA 1 2025 LIVE CLASSES

11:30AM	GK - ANCIENT & MEDIEVAL HISTORY - MCQ CLASS	RUBY MA'AM
4:00PM	MATHS - PERMUTATION & COMBINATION - CLASS 2	NAVJYOTI SIR
5:30PM	ENGLISH - ORDERING OF SENTENCES - CLASS 2	ANURADHA MA'AM

CDS 1 2025 LIVE CLASSES

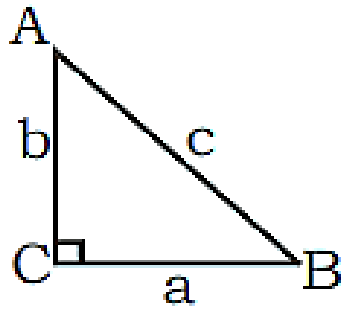
11:30AM	GK - ANCIENT & MEDIEVAL HISTORY - MCQ CLASS	RUBY MA'AM
5:30PM	ENGLISH - ORDERING OF SENTENCES - CLASS 2	ANURADHA MA'AM
7:00PM	MATHS - GEOMETRY - CLASS 3	NAVJYOTI SIR

AFCAT 1 2025 LIVE CLASSES

5:30PM	ENGLISH - ORDERING OF SENTENCES - CLASS 2	ANURADHA MA'AM
7:00PM	MATHS - GEOMETRY - CLASS 3	NAVJYOTI SIR

RELATION BETWEEN SIDES OF TRIANGLE

Right Angle Triangle



$\angle C$ = largest ✓

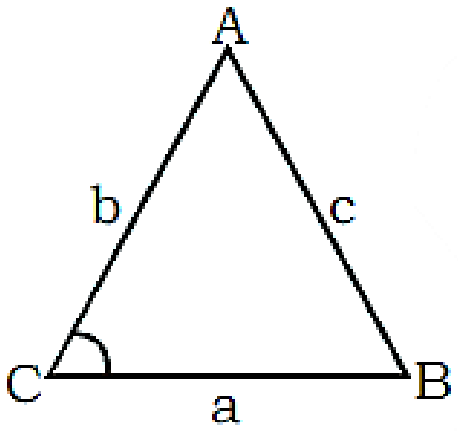
side c = largest ✓

$\mathbf{c^2 = a^2 + b^2}$

→ Pythagoras Theorem

RELATION BETWEEN SIDES OF TRIANGLE

Acute Angle Triangle



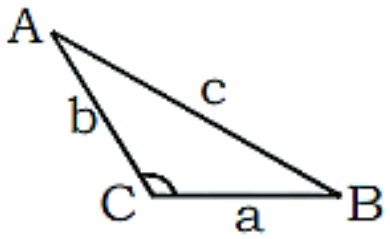
$\angle C$ = largest

side c = largest

$\mathbf{c^2 < a^2+b^2}$

RELATION BETWEEN SIDES OF TRIANGLE

Obtuse Angle Triangle



$\angle C$ = largest

side c = largest

$\mathbf{c^2 > a^2 + b^2}$

QUESTION

sides of triangle : 11.7, 16.9, 23.4. which type of Δ it is?

$11.7 : 16.9 : 23.4$ } pythagoras theorem also works for ratio of sides,

$117 : 169 : 234$

$\underline{9} : \underline{13} : \underline{18}$

(a) (b) (c)

$c^2 = 18^2 = 324$

$a^2 = 81$

$b^2 = 169$

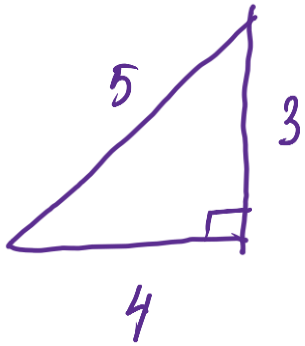
$a^2 + b^2 = 250$

$c^2 > a^2 + b^2 \longrightarrow$ obtuse angled triangle

SSBCrack EXAMS

PYTHAGOREAN TRIPLETS

(3,4,5),	(5,12,13),	(7,24,25),
(8,15,17),	(9,40,41),	(11,60,61),
(12,35,37),	(16,63,65),	(13,84,85),
(20,21,29),	(28,45,53),	(33,56,65),
(39,80,89),	(36,77,85),	(65, 72, 97),
(20, 99, 101)		



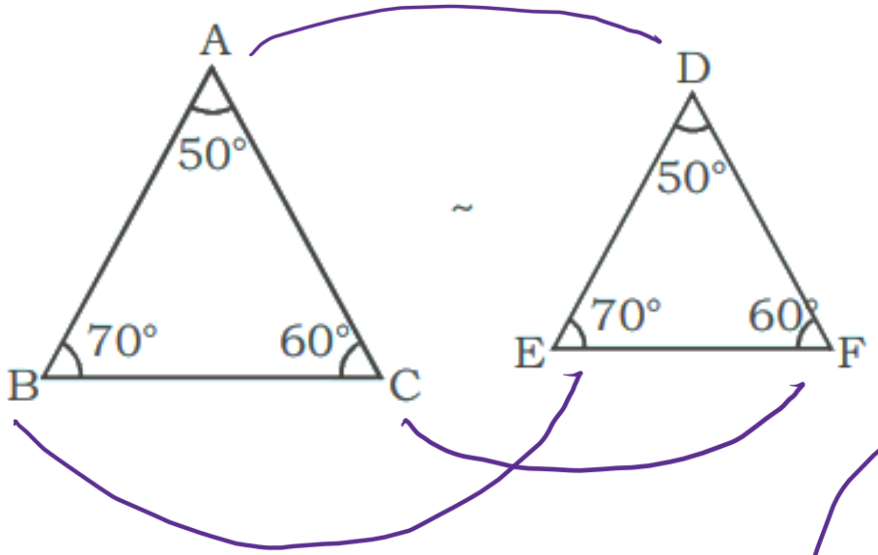
(3, 4, 5)

multiplication and division on these triplets will also result in triplets.

(5,12, 13) $\xrightarrow{\times 2}$ (10, 24, 26) ✓

(3,4,5) → (6,8,10), (9,12,15), (12,16,20), (15,20,25)

SIMILAR TRIANGLES



$$\frac{BC}{EF}=\frac{AC}{DF}=\frac{AB}{DE}=\frac{h_1}{h_2}=\frac{\text{Angle bisector1}}{\text{Angle bisector2}}=\frac{\text{median1}}{\text{median2}}$$

$$=\frac{r_1}{r_2}=\frac{R_1}{R_2}=\frac{\text{perimeter of }\Delta ABC}{\text{perimeter of }\Delta DEF}$$

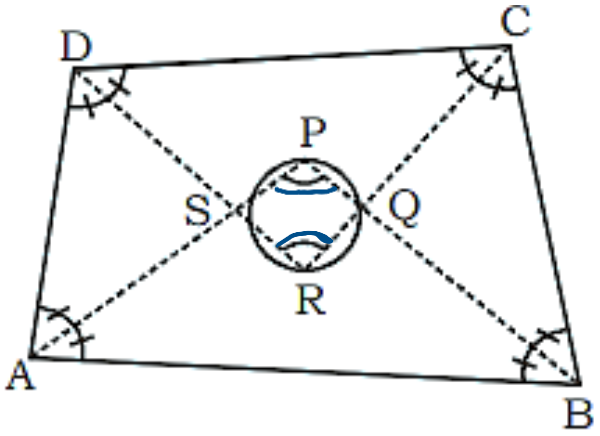
in-radius

circumradius

$$\frac{\text{Area of }\Delta ABC}{\text{Area of }\Delta DEF}=\frac{\frac{1}{2}\times BC\times h_1}{\frac{1}{2}\times EF\times h_2}=\left(\frac{BC}{EF}\right)^2=\left(\frac{AC}{DF}\right)^2=\left(\frac{AB}{DE}\right)^2$$

= Ratio of square of corresponding length.

ANGLE BISECTOR OF QUADRILATERAL

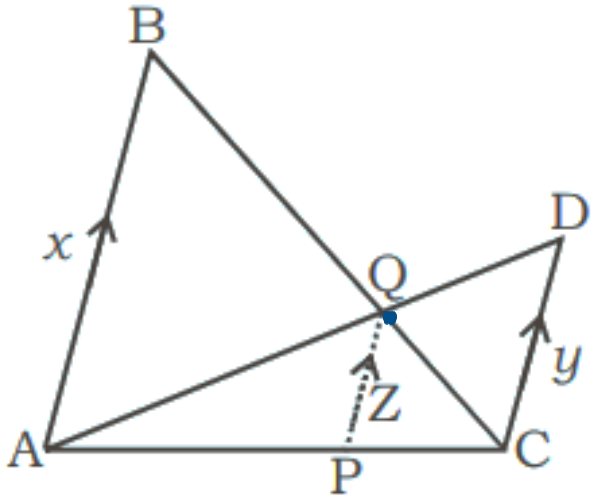


$$\angle APB = \frac{\angle C + \angle D}{2}$$

$$\angle DRC = \frac{\angle A + \angle B}{2}$$

$\angle P + \angle R = 180°$
$\angle S + \angle Q = 180°$

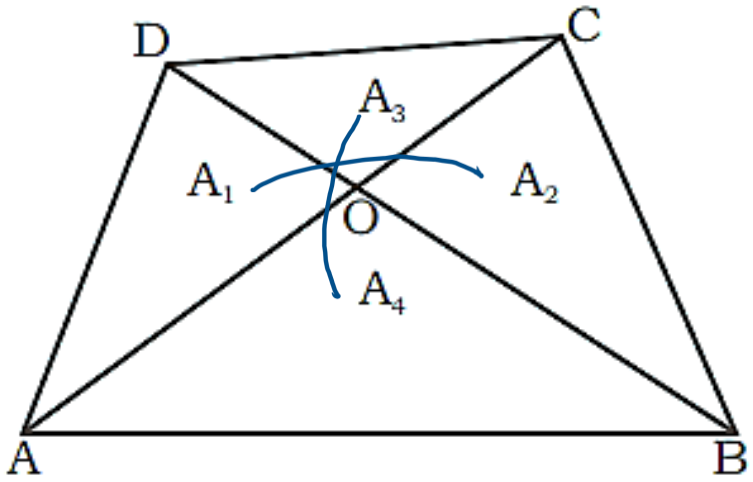
PQRS is a cyclic quadrilateral.



$$\frac{1}{x}+\frac{1}{y}=\frac{1}{z} \Rightarrow z=\frac{xy}{x+y}$$

AB || PQ || CD

TRAPEZIUM

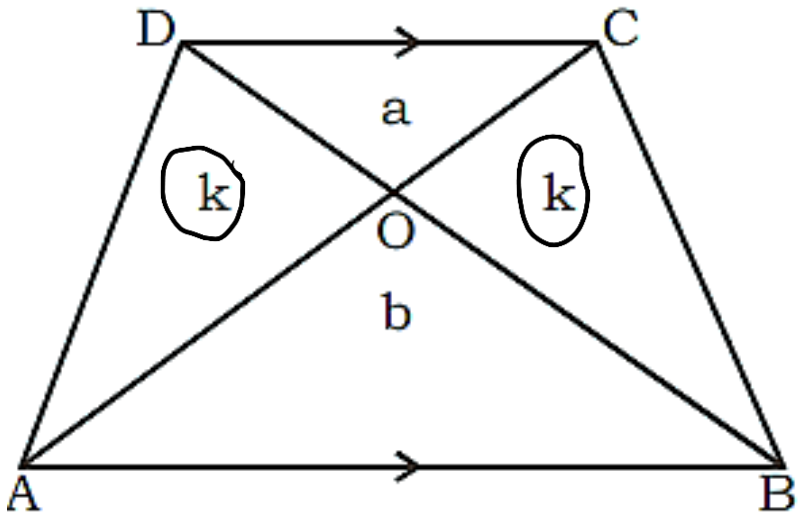


$$A_1 \times A_2 = A_3 \times A_4$$

$$\frac{A1}{A3} = \frac{A4}{A2}$$

product of areas of opposite triangles formed by diagonals are equal.

TRAPEZIUM



Ar Δ ADB = Ar Δ ACB

$ar(\triangle AOD) = ar(\triangle BOC)$] removing the common triangle, $\triangle AOB$

$K \times K = a \times b$ → $K = \sqrt{ab}$

CDS & AFCAT 1 2024 LIVE CLASS - MATHS - PART 3

SSBCrack EXAMS

CDS 1 2025

MATHS

LIVE

GEOMETRY

CLASS 4

NAVJYOTI SIR