RPF SI & CONSTABLE 2024

रेल रक्षक बैच

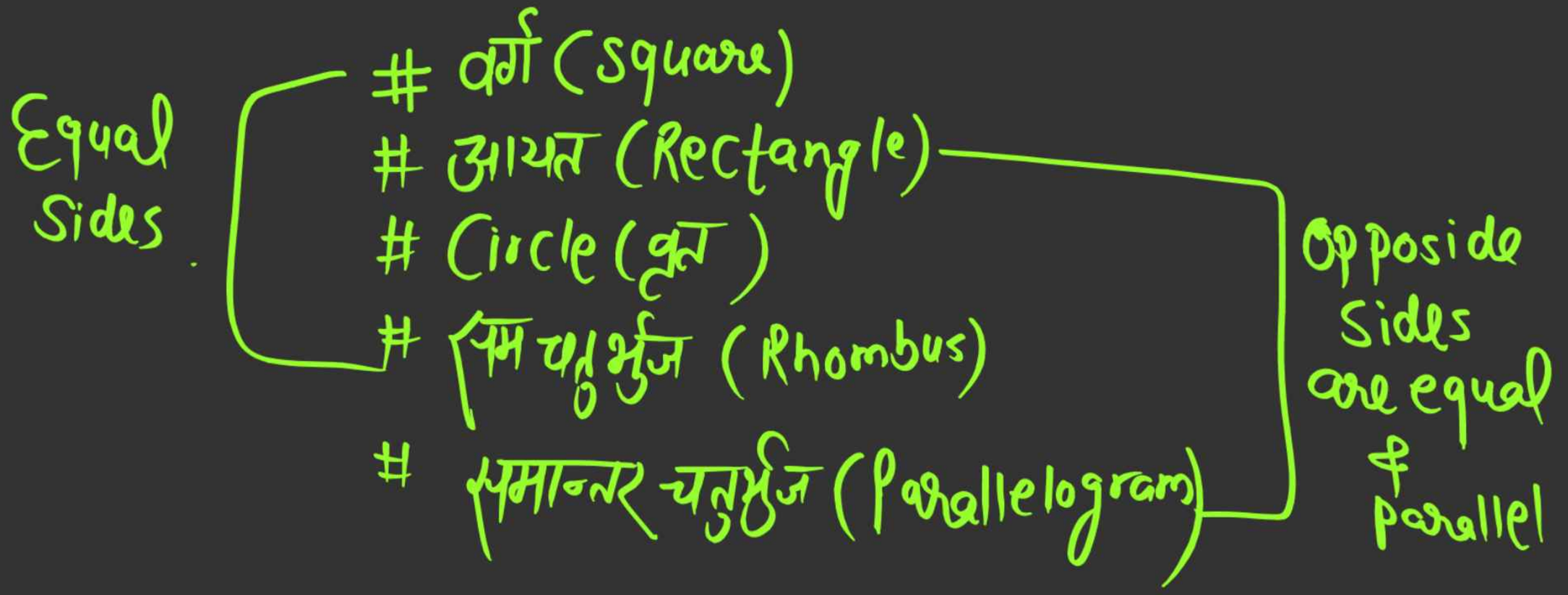
MATHS

Mensuration 2D

Part -4



LIVE STREAMING 26-09-2024 09:00AM


Equal Sides
वर्ग (Square)
आयत (Rectangle)
Circle (वृत्त)
समचतुर्भुज (Rhombus)
समान्तर चतुर्भुज (Parallelogram)
Opposide Sides are equal & parallel

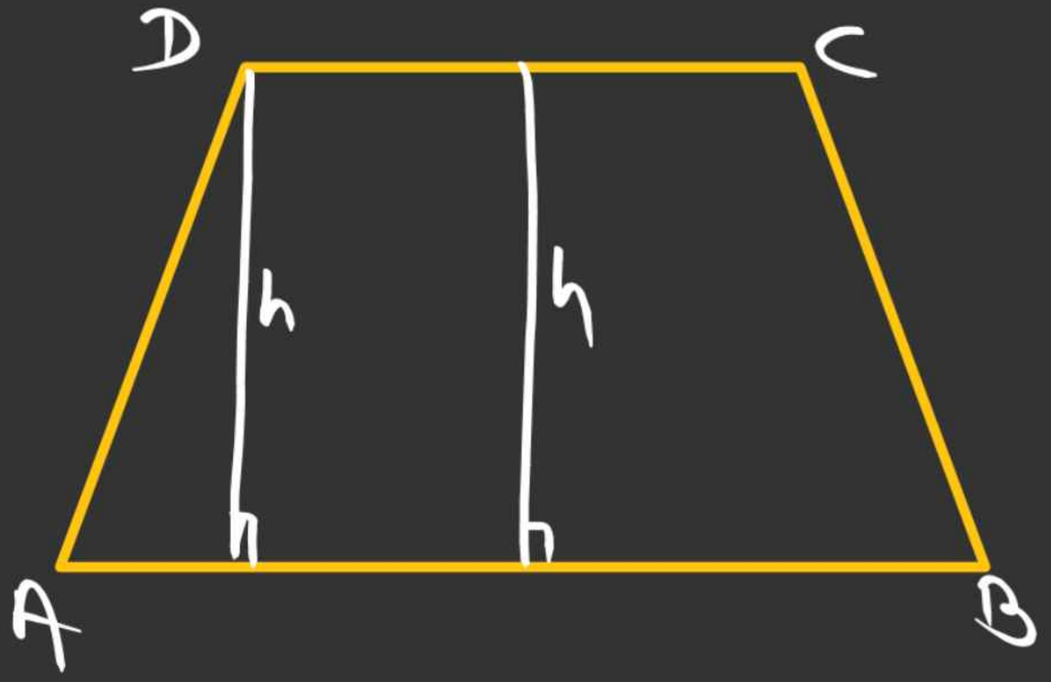
समलम्ब चतुर्भुज (Trapezium) →

समानान्तर
↑

1. AB || CD

2. परिमाप (P) ⇒ AB + BC + CD + DA

3. Area ⇒ $\frac{1}{2}(AB + CD) \times h$

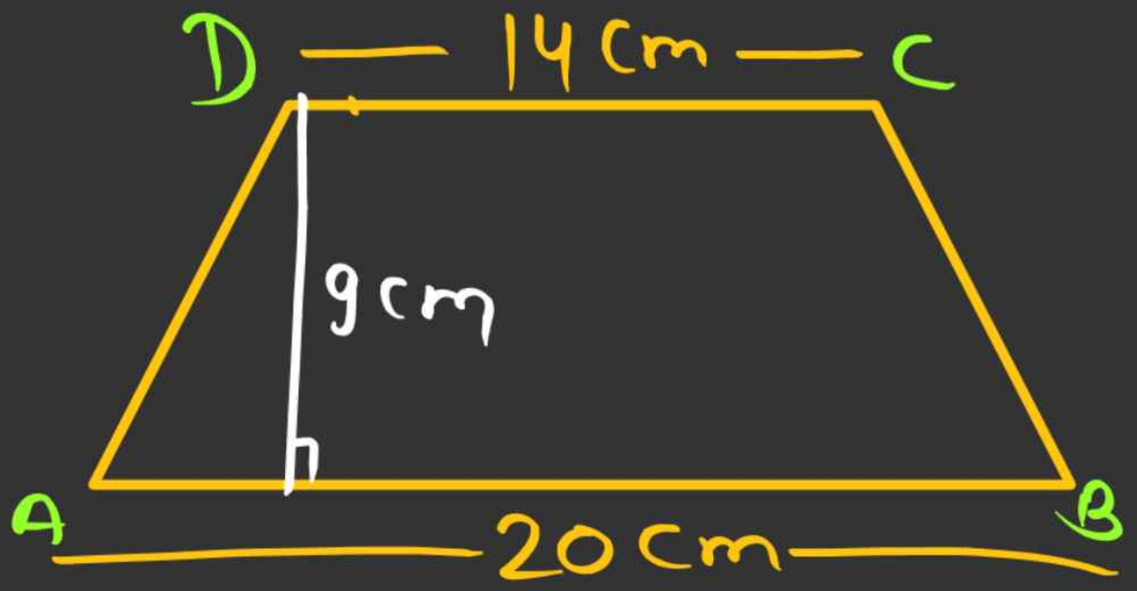


$AB = 20\,cm$
$CD = 14\,cm$

1. Area $\rightarrow \frac{1}{2}(20+14) \times 9$

$\Rightarrow 17 \times 9$

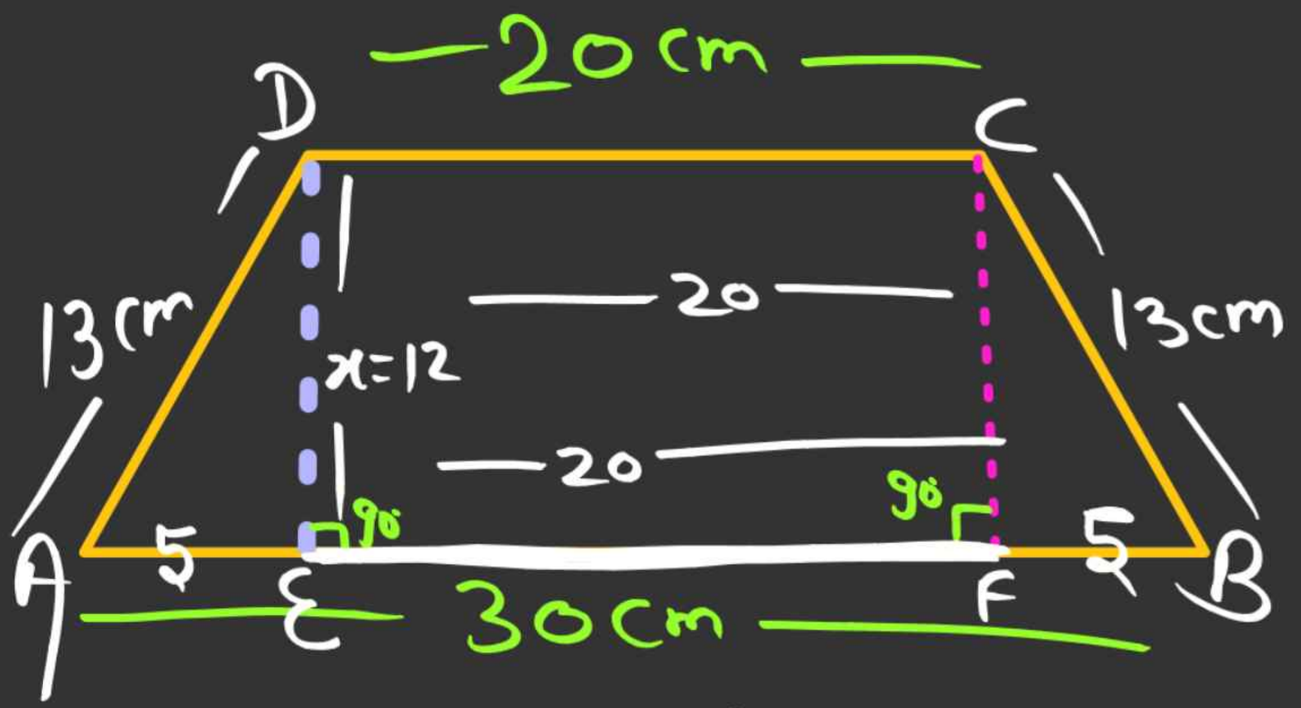
$\Rightarrow 153\,cm^2$



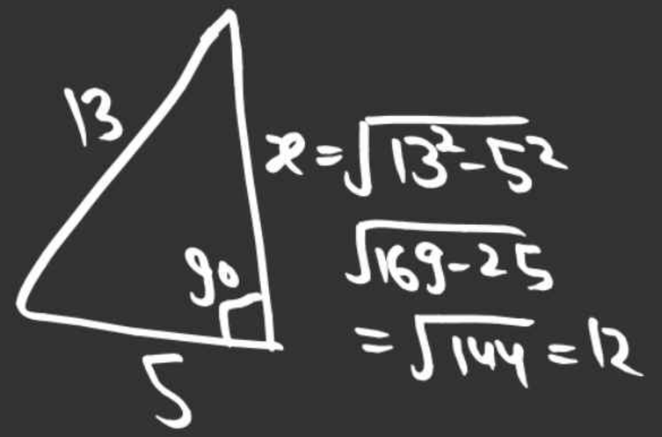
1. ऊंचाई $(h) = 12\ cm$

2. $Area = \frac{1}{2}(30+20) \times 12$

$\rightarrow 300\ cm^2$



ΔAED

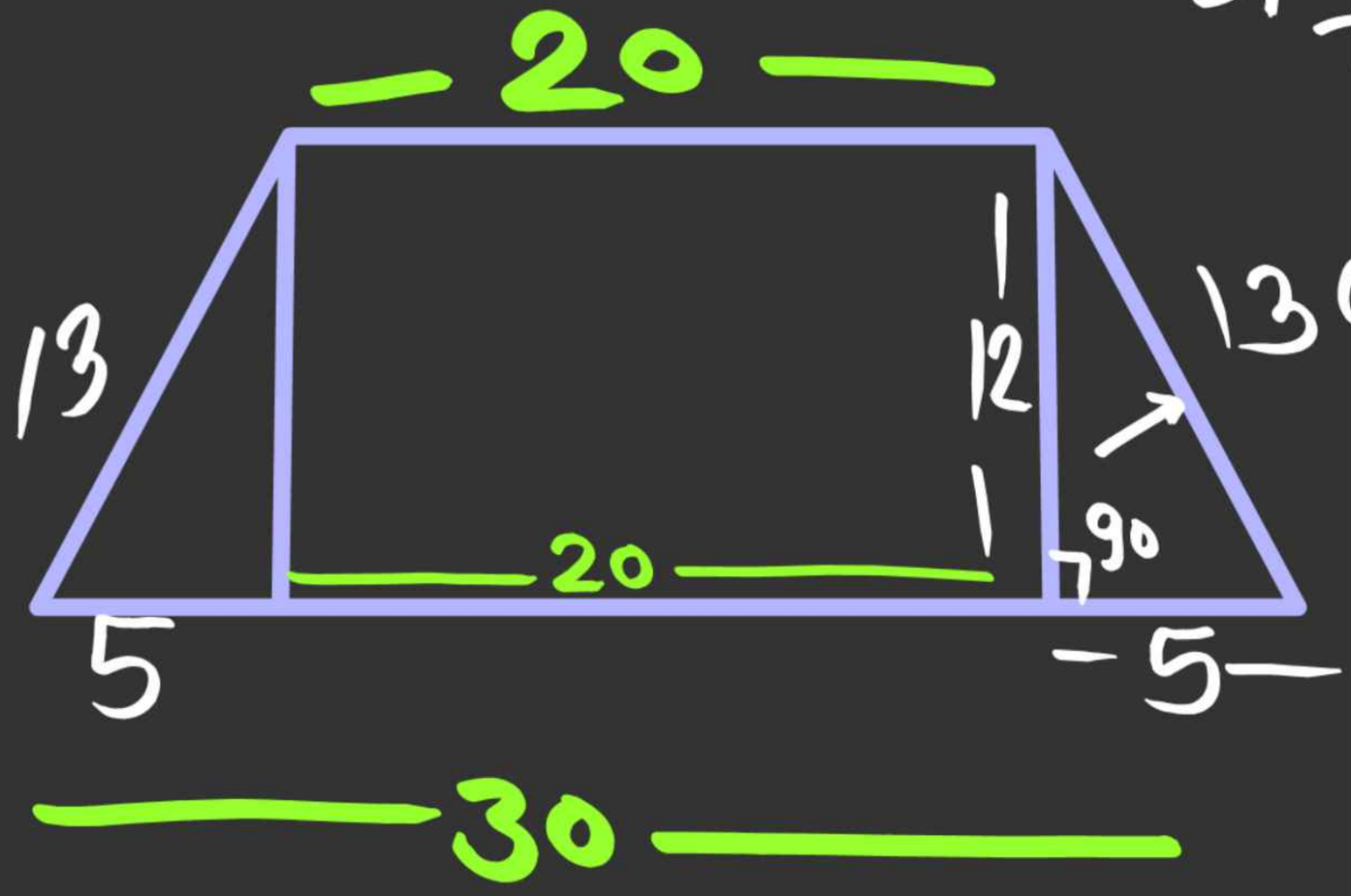


$x = \sqrt{13^2 - 5^2}$

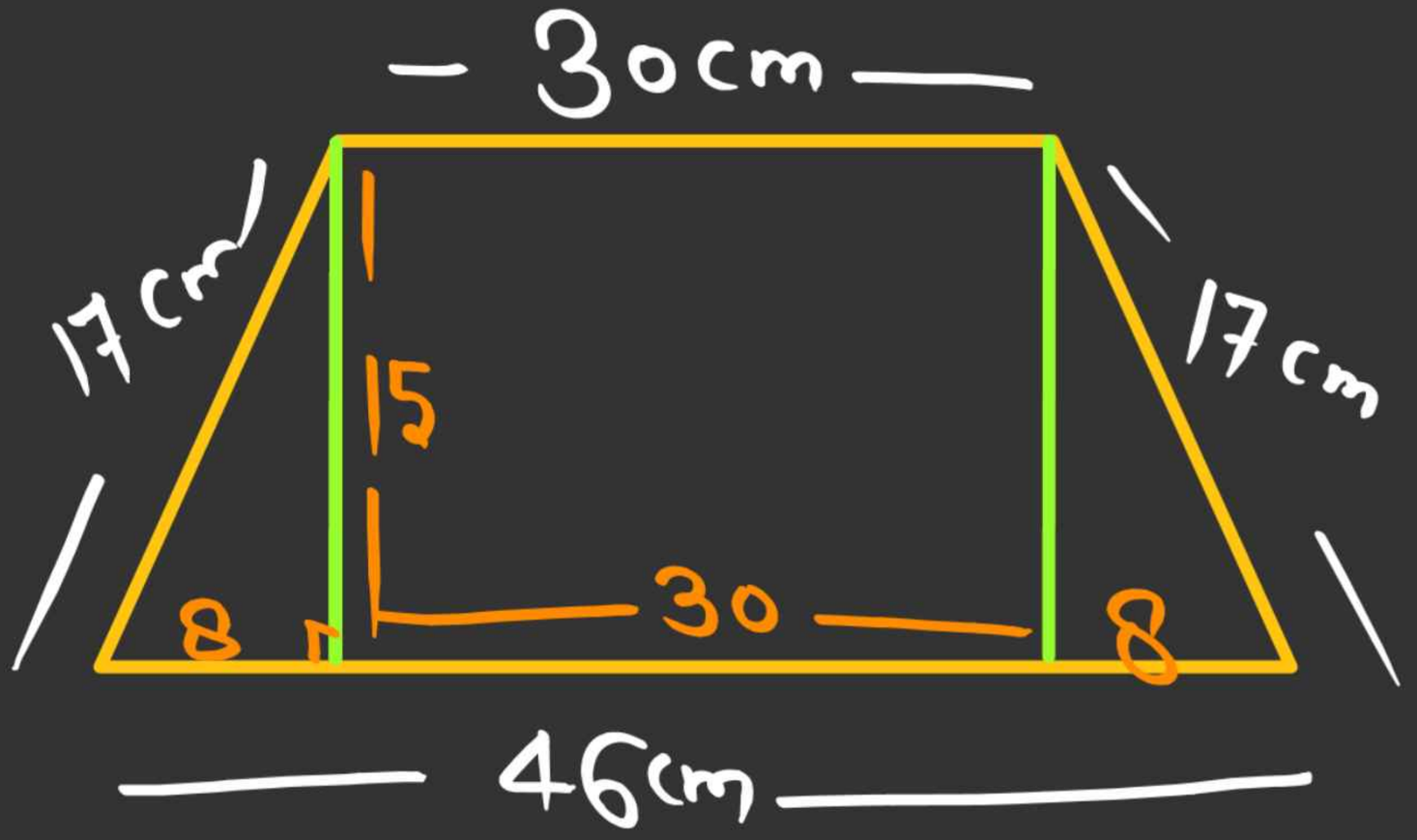
$\sqrt{169-25}$

$= \sqrt{144} = 12$

5, 12, 13
TRIPLET



$h = ? = 15\,cm$



Area = ?

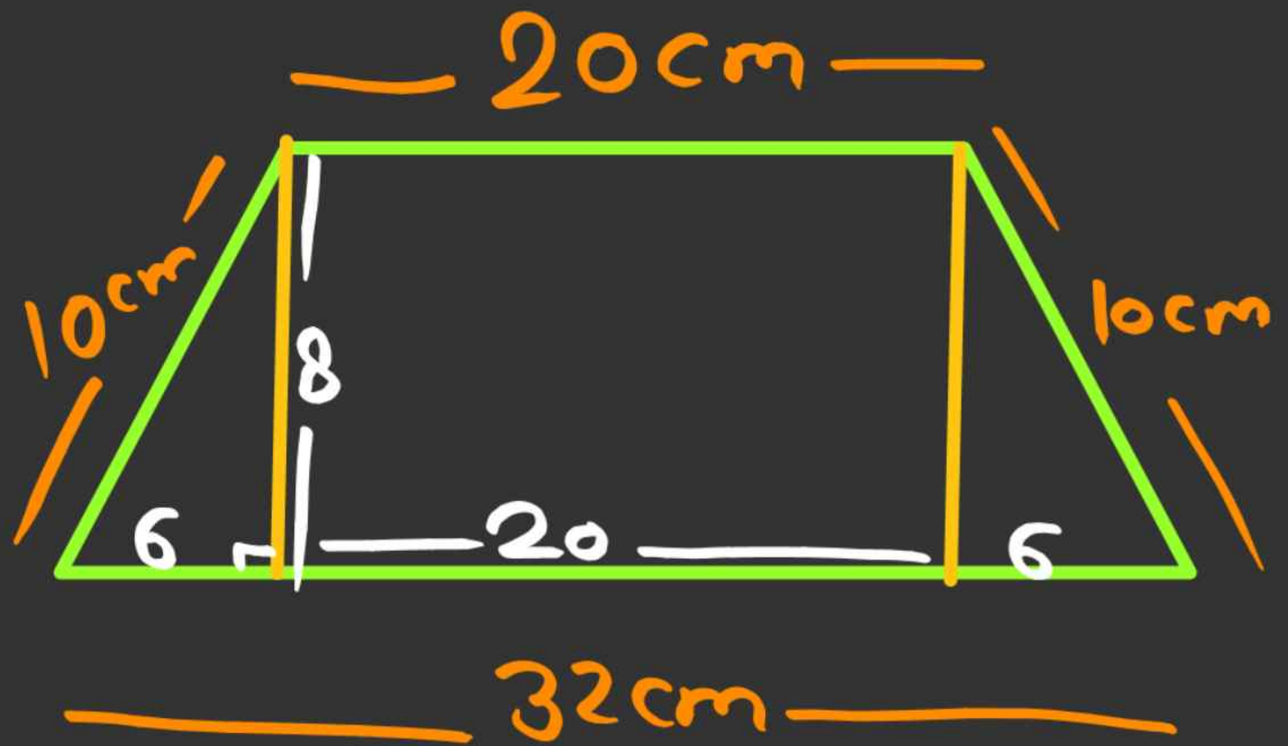
$\rightarrow \frac{1}{2}(46+30) \times 15$

$\Rightarrow \frac{76 \times 15}{2} \Rightarrow 570\,cm^2$

15, 8, 17

h = ?

न्यूनतम दूरी ⇒ 8



AREA = ?

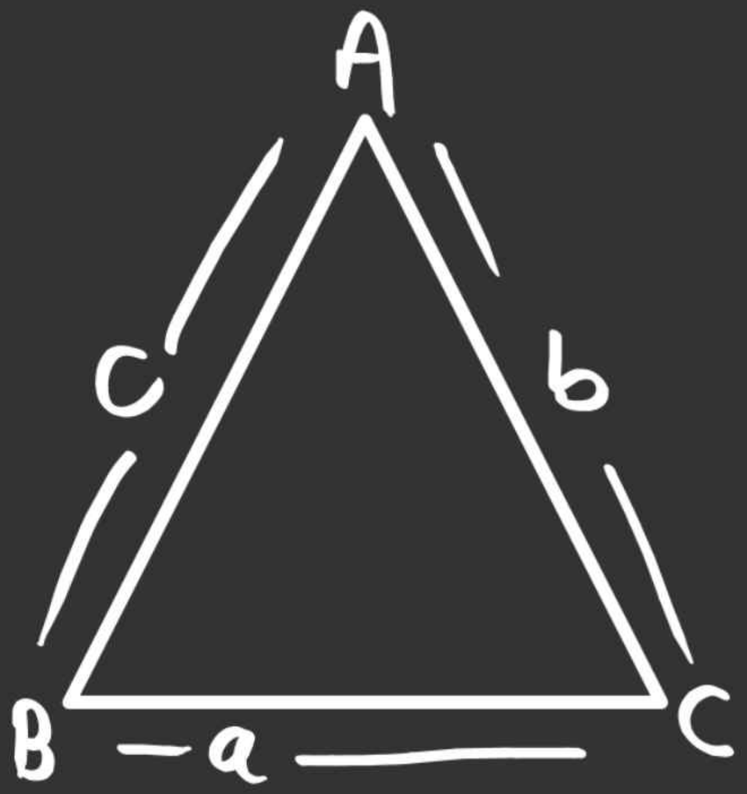
$$\frac{1}{2}(32+20)\times 8^{4}$$

$$\Rightarrow 52\times 4$$

$$\Rightarrow 208\ cm^2$$

8, 6, 10

त्रिभुज (TRIANGLE)



1. परिमाप(P) $\Rightarrow a+b+c$
2. अर्द्धपरिमाप (S) $\Rightarrow \frac{(a+b+c)}{2}$
3. Area $\Rightarrow \frac{1}{2} \times$ Base $\times$ height
4. Area $\Rightarrow$ Hero's formula $\Rightarrow \sqrt{S(S-a)(S-b)(S-c)}$

जहाँ $S = \frac{a+b+c}{2}$

TRIANGLE

कोणों पर आधारित
Based on angles



⟹ 1. न्यूनकोण Δ (Acute angle Triange)



2. अधिककोण Δ (Obtuse angle Triangle)



⟹ 3. समकोण Δ (Right angle Triangle)

(भुजाओं पर आधारित)
Based on sides

1. समबाहु Δ (Equilateral Δ)

2. विषमबाहु Δ (Scalene Δ)

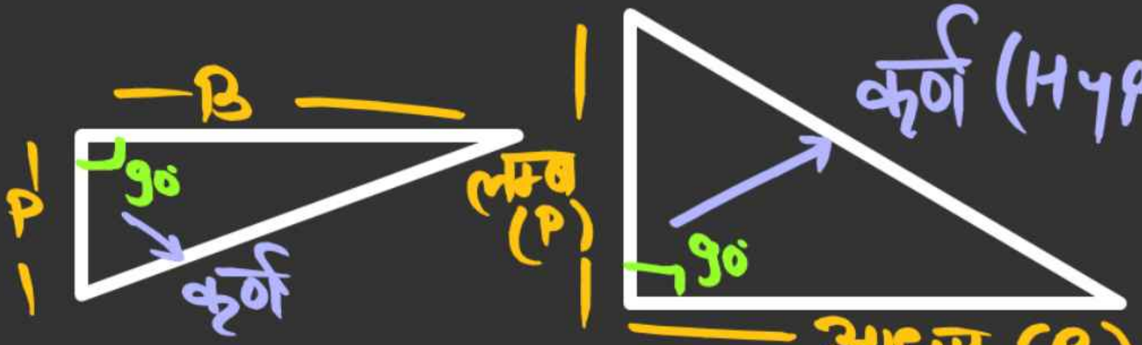
3. समद्विबाहु Δ (Isosceles Δ)

समकोण △ (Right angle Triange) :-

[कर्ण^2 = लम्ब^2 + आधार^2]

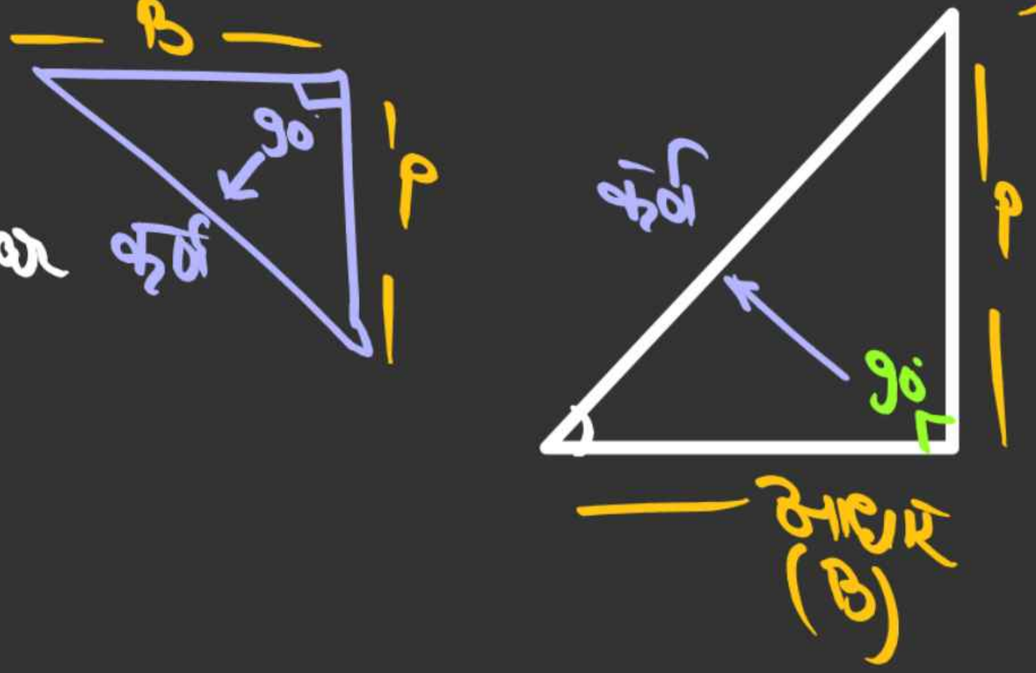
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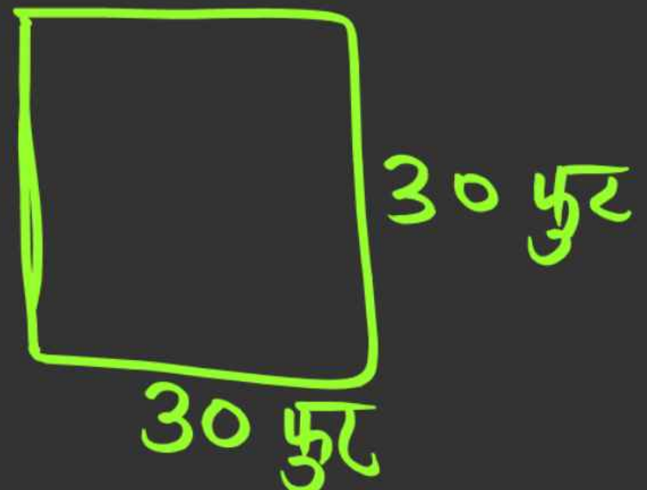
(पाइथागोरस का प्रमेय)

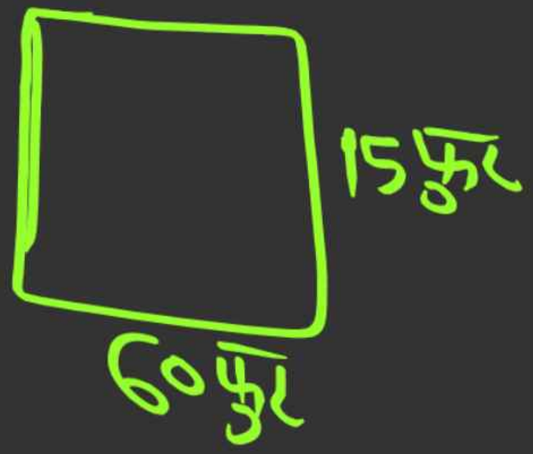


⇒ समकोण △ परिमाप ⇒ P+B+H

⇒ Area ⇒ $\frac{1}{2}$ × Base × Perpendicular





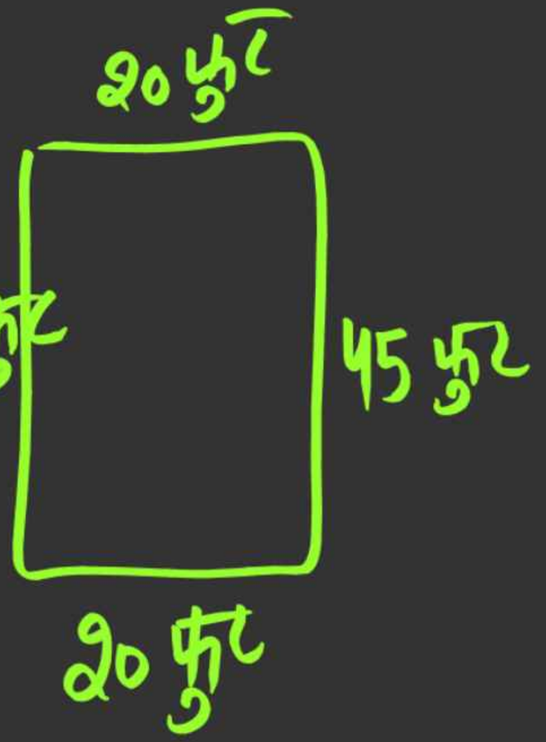


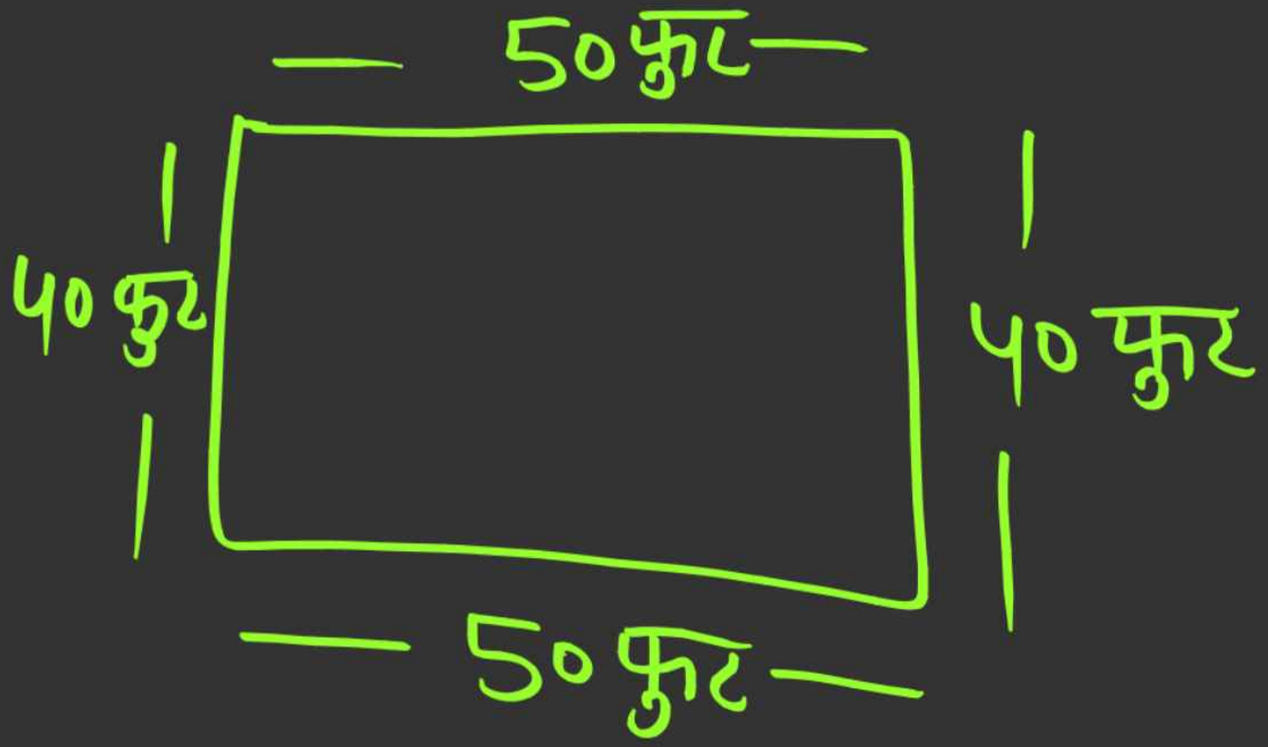
Area

$\Rightarrow 45 \times 20$

$\Rightarrow 900$ फुट^2

गज $\rightarrow \frac{900}{9} \rightarrow 100$ गज




50 फुट
40 फुट
40 फुट
50 फुट