



SSC CHSL 2022-23



MATHS

MENSURATION-2D

DAY-1

MENSURATION के प्रश्न सेकेण्डों में SOLVE करें!

BY SUNIL MAHENDRAS

🔊 **LIVE** | 08:30 PM





UPCOMING ONLINE BATCHES

February 2023

08 FEB 2023

03:00 PM to 05:00 PM

SSC ONLINE LIVE CLASS

BILINGUAL

15 FEB 2023

10:30 AM to 12:30 PM

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BILINGUAL

15 FEB 2023

06:30 PM to 08:30 PM

BANK ONLINE LIVE CLASS

English & Bengali



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7052477777/7052577777



@mohit..9476 17 hours ago

Amazing Class Session Sir.. 👍

And

Answer for today's Homework is-
Option A == 1000 m...

Read more

👍 1 🗨️ 🚫❤️ Reply

▼ 🚫👤 • 1 reply



@aishikaghosh9030 20 hours ago

1000m

👍 1 🗨️ Reply

▼ 🚫👤 • 1 reply



@Ravi.1 20 hours ago

1000 ~~100~~

👍 2 🗨️ Reply

▼ 🚫👤 • 1 reply



@surbhisinha7315 18 hours ago

Homework question answer 🙌 1000 m

👍 1 🗨️ Reply

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@subhamoyghosh8498 10 hours ago

Ans 1000m

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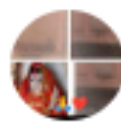


@girrajsinghjadon3602 19 hours ago

$732/.732=1000=x=h$

👍 1 🗨️ Reply

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@nishthashukla7405 19 hours ago (edited)

1000

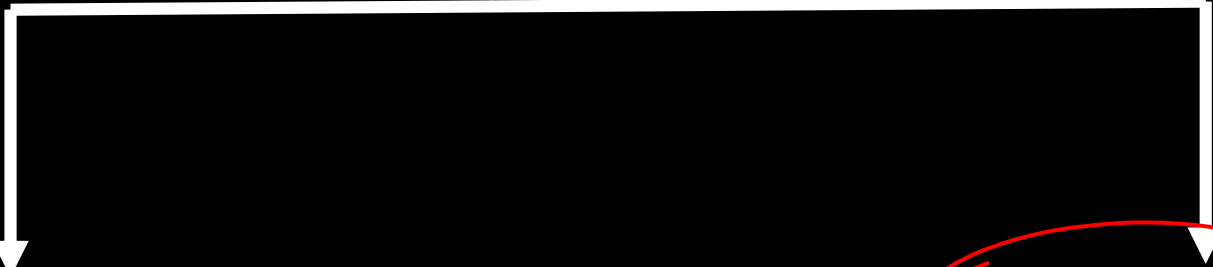
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MENSURATION

क्षेत्रमिति

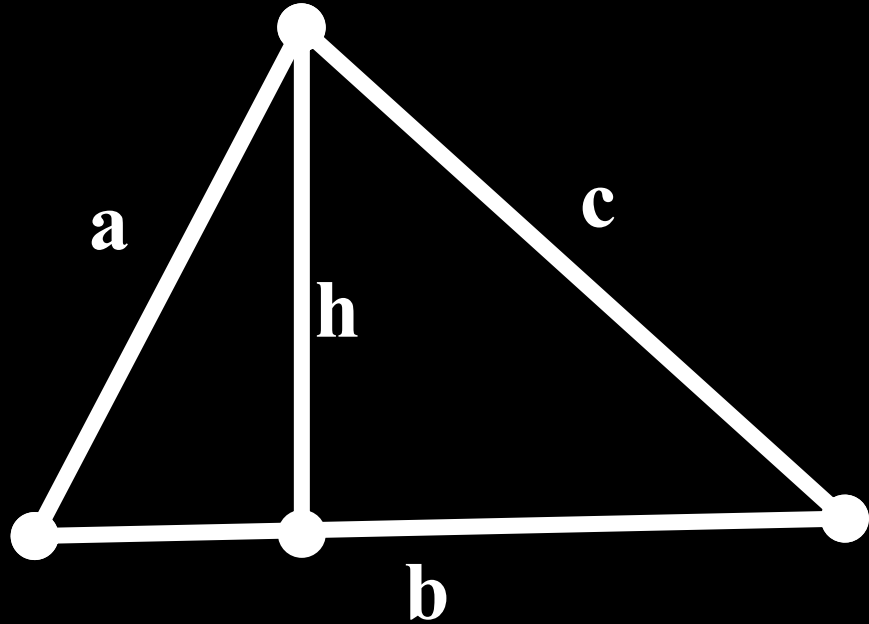
MENSURATION



2-D figure

3-D figure

Scalene (विषम भुज)



$$\text{Area/क्षेत्रफल} = \Delta = \frac{1}{2} \times b \times h$$

$$\text{Perimeter/परिमाप} = P = (a + b + c)$$

$$\text{Semi-Perimeter/अर्ध-परिमाप} = s = \frac{(a+b+c)}{2}$$

$$\sqrt{s(s-a)(s-b)(s-c)}$$

$$\text{Area/क्षेत्रफल} = \Delta =$$

$$\text{In-Radius/अंतः-त्रिज्या} = \frac{\Delta}{s}$$

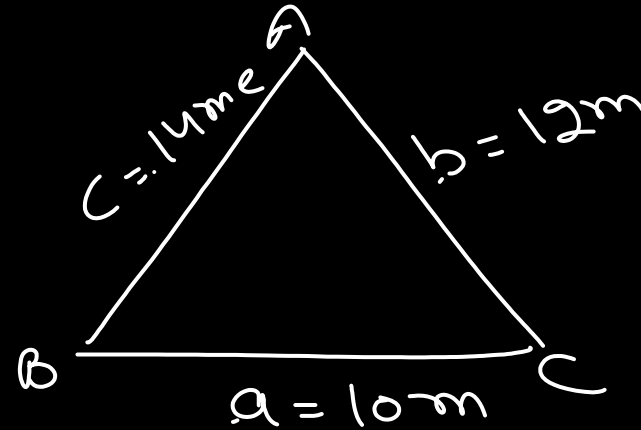
$$\text{Circum-Radius/परि-त्रिज्या} = \frac{abc}{4\Delta}$$

$$\frac{abc}{4\Delta}$$

The sides of triangle are 10 m., 12 m. and 14 m. What will be the area of the that triangle?

त्रिभुज की भुजाएँ 10 मी., 12 मी. और 14 मी. उस त्रिभुज का क्षेत्रफल क्या होगा?

$$S = \frac{a+b+c}{2}$$
$$= \frac{10+12+14}{2}$$
$$= \frac{36}{2} = 18 \text{ m}$$



a) $37\sqrt{3} \text{ m}^2$

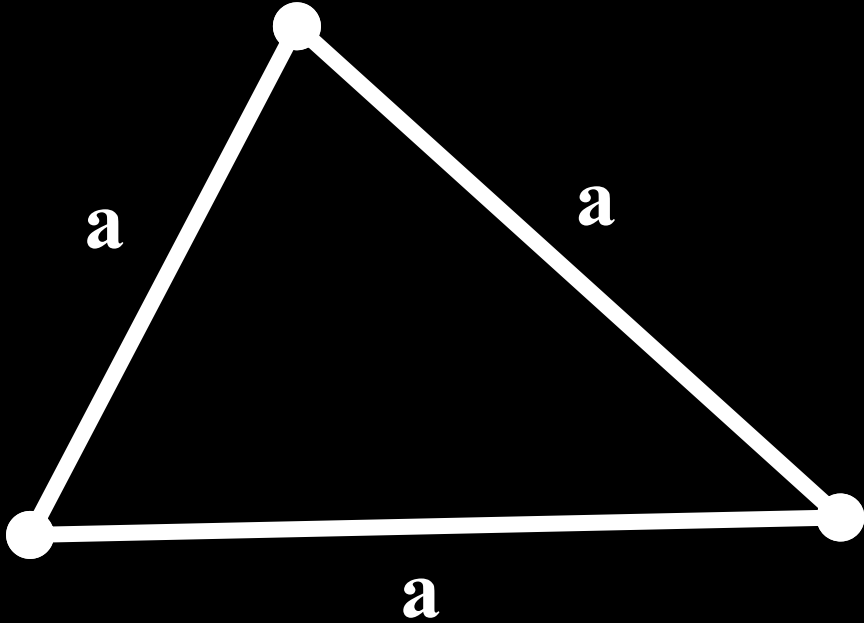
b) 30 m^2

c) 18 m^2

d) $24\sqrt{6} \text{ m}^2$

$$A = \sqrt{S(S-a)(S-b)(S-c)}$$
$$= \sqrt{18 \times 8 \times 6 \times 4}$$
$$A = 12 \times 2 \sqrt{6} = 24\sqrt{6}$$

EQUILATERAL TRIANGLE (समबाहु त्रिभुज)



$$\text{Area/क्षेत्रफल} = \Delta = \frac{\sqrt{3}}{4} a^2$$

$$h = \frac{\sqrt{3}}{2} a$$

$$\text{Perimeter/परिमाण} = P = 3a$$

$$\text{Semi-Perimeter/अर्ध-परिमाण} = s = \frac{3a}{2}$$

The altitude of an equilateral triangle is $\sqrt{3}$ cm. What is its perimeter?

किसी समबाहु त्रिभुज की ऊँचाई $\sqrt{3}$ cm है। इसका परिमाण क्या है ?

इस ज्ञात है

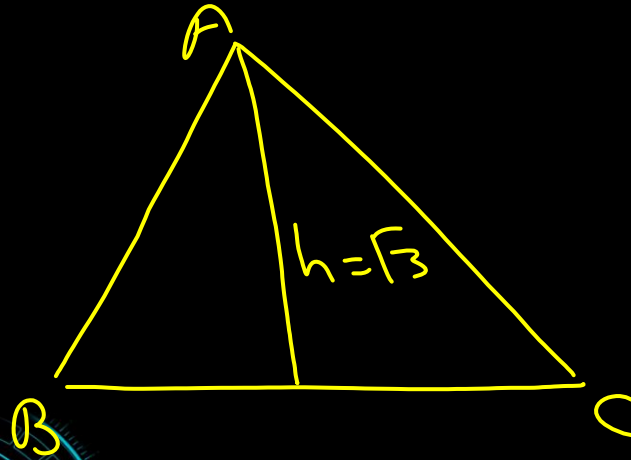
$$h = \frac{\sqrt{3}}{2} a$$

$$\sqrt{3} = \frac{\sqrt{3}}{2} a$$

$$a = 2$$

$$P = 3a$$

$$P = 3 \times 2 = 6 \text{ cm}$$



a) 12 cm

b) 6 cm

c) 10 cm

d) 18 cm

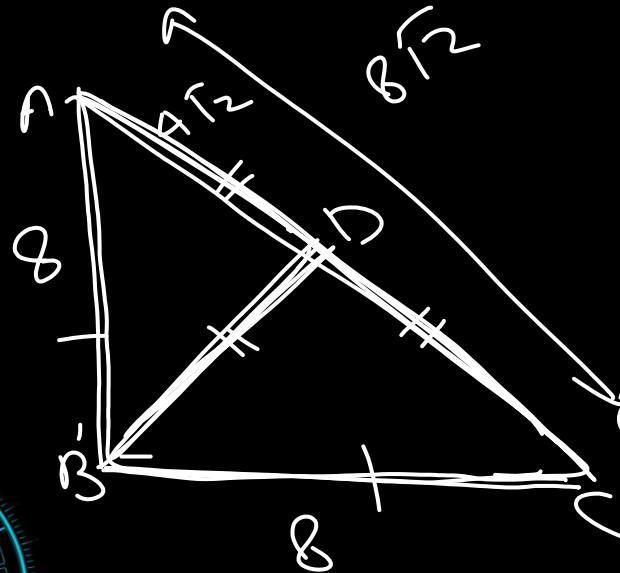
ABC is an isosceles triangle such that $AB = BC = 8$ cm and $\angle ABC = 90^\circ$. What is the length of the perpendicular drawn from B on AC?

ABC कोई समद्विबाहु त्रिभुज इस प्रकार है कि $AB = BC = 8$ cm और $\angle ABC = 90^\circ$ है। B से AC पर खींचे गए लम्ब की लम्बाई क्या है ?

$$\frac{1}{2} \times 8 \times 8 = \frac{1}{2} \times 8\sqrt{2} \times BD$$

$$BD = \frac{8 \times 8}{8\sqrt{2}}$$

$$BD = 4\sqrt{2}$$



a) $8\sqrt{2}$ cm

b) $4\sqrt{2}$ cm

c) 4 cm

d) 8 cm

RECTANGLE (आयत)

l = length

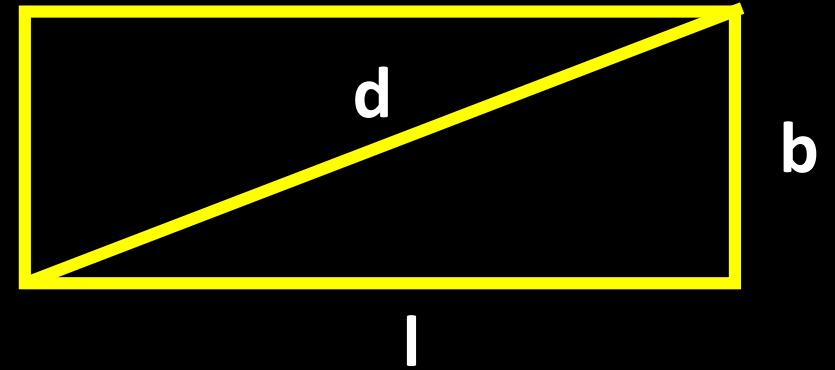
b = breadth

d = diagonal

Area : $l \times b = lb$

Perimeter : $2l + 2b = 2(l + b)$

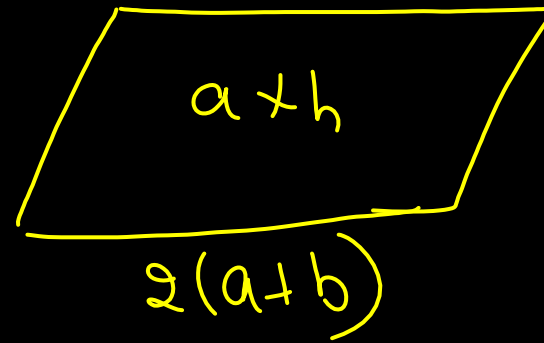
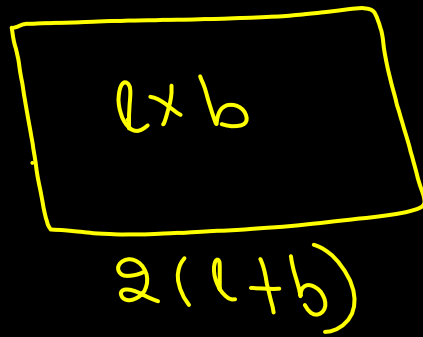
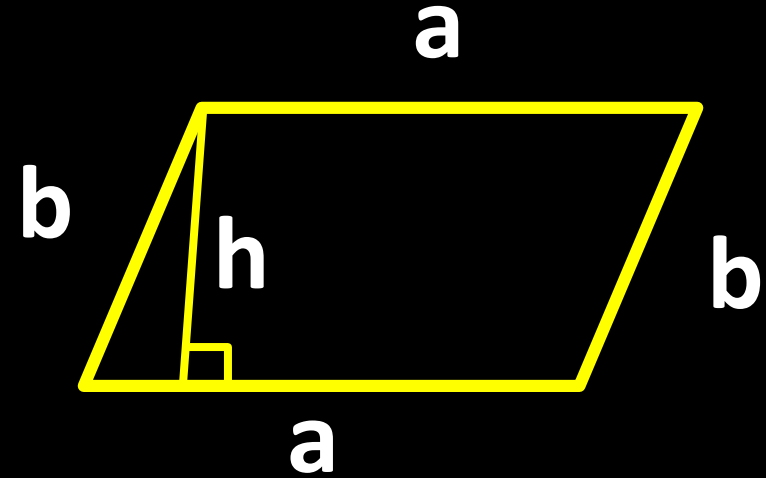
Diagonal : $\sqrt{l^2 + b^2}$



PARALLELOGRAM (समानांतर चतुर्भुज)

Area : $a \times h$ = Base \times height

Perimeter : $2(a + b)$



SQUARE वर्ग

$a \rightarrow$ side

$d \rightarrow$ diagonal

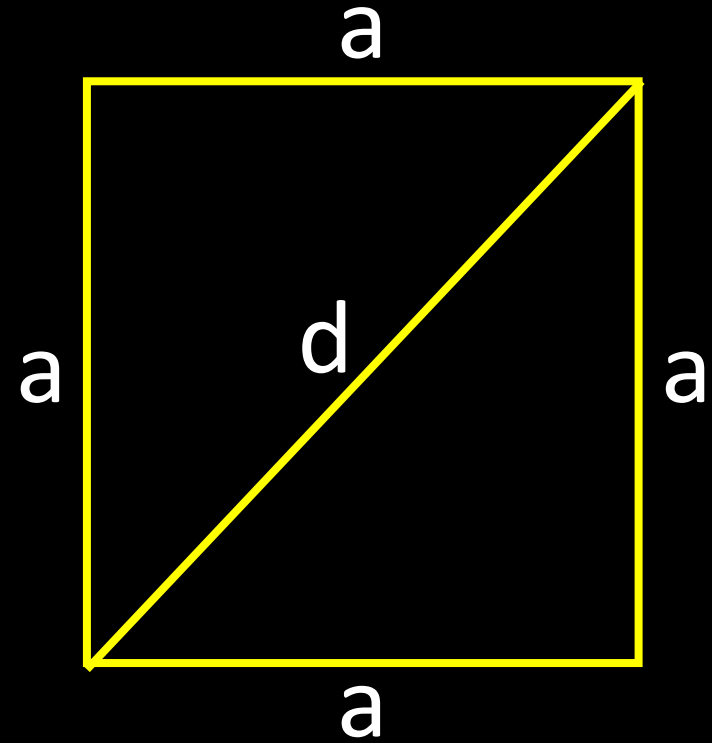
Diagonal : $a\sqrt{2}$

Area : (i) $a \times a = a^2$

(ii) $\frac{d^2}{2}$

वर्गम

Perimeter : $a + a + a + a = 4a$



RHOMBUS (समचतुर्भुज)

$a \rightarrow$ each equal side of rhombus

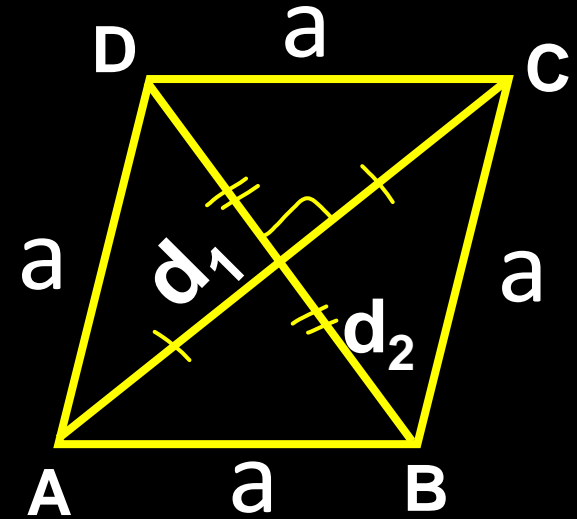
d_1 and d_2 are the diagonals

$d_1 \rightarrow BD$

$d_2 \rightarrow AC$

Area : $\frac{1}{2} \times d_1 \times d_2$

Perimeter : $4a$

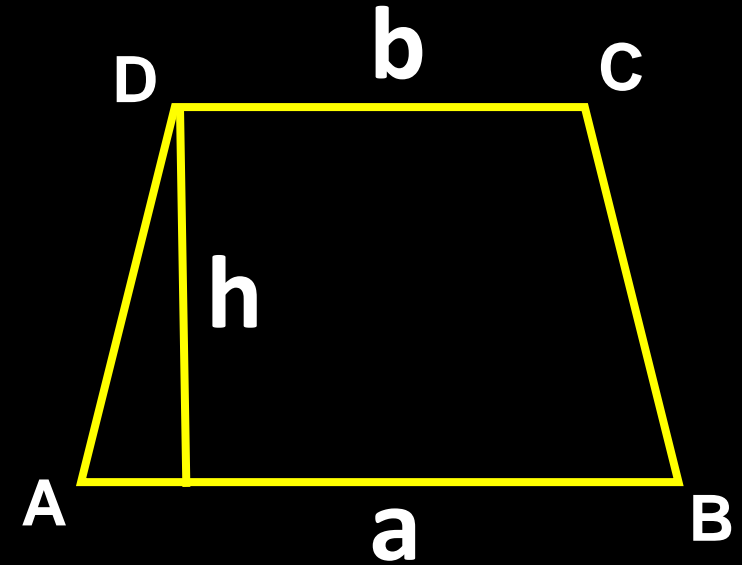


TRAPEZIUM (समलम्ब चतुर्भुज)

a and b are parallel sides to each other and h is the perpendicular distance between parallel sides.

$$\text{Area} : \left(\frac{a+b}{2} \right) \times h$$

$$\text{Perimeter} : AB+BC+CD+AD$$



or

$$\text{Area} = \frac{1}{2} (\text{Sum of // Sides}) \times \text{Distance b/w them}$$

$$\text{Parallelo} \Rightarrow \text{Area} = a \times h$$

$$\underline{\text{Rombus}} \quad A = \frac{1}{2} d_1 \times d_2$$

$$\text{Equila} \Rightarrow h = \frac{\sqrt{3}}{2} a$$

$$\underline{\text{Square}} \Rightarrow d = a \sqrt{2}$$

$$a = \frac{d}{\sqrt{2}}$$

$$\boxed{\text{Area} = a^2 = \frac{d^2}{2}}$$

If the diagonal of a square is $14\sqrt{2}$ cm, then, what is the area of the largest possible circle that can be drawn inside the square?

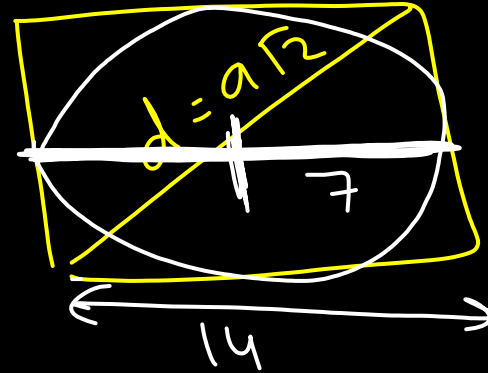
यदि वर्ग का विकर्ण $14\sqrt{2}$ सेमी है, तो, वर्ग के अंदर खींचे जा सकने वाले सबसे बड़े संभावित वृत्त का क्षेत्रफल क्या है?

$$a\sqrt{2} = 14\sqrt{2}$$
$$a = 14$$

$$A = \pi r^2$$

$$A = \pi \times 49$$

$$= 49\pi$$



a) 64π

b) 45π

c) 36π

d) 49π

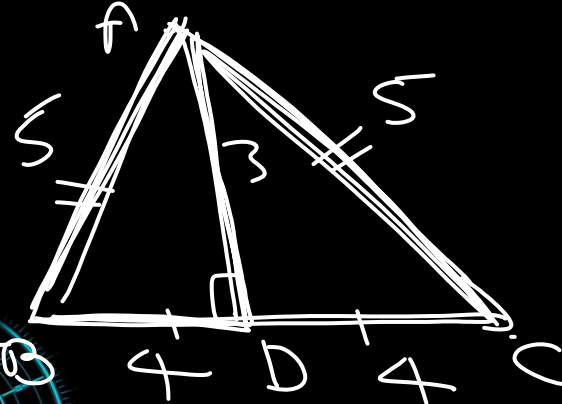
The area of an isosceles triangle ABC with $AB = AC$ and altitude $AD = 3$ cm is 12 cm^2 . What is its perimeter?

ऊँचाई $AD = 3$ cm और $AB = AC$ वाले एक समद्विबाहु त्रिभुज ABC का क्षेत्रफल 12 वर्ग सेमी. है I इसका परिमाण कितना है ?

$$\frac{1}{2} \times BC \times 3 = 12$$

$$\frac{BC}{2} = 4$$

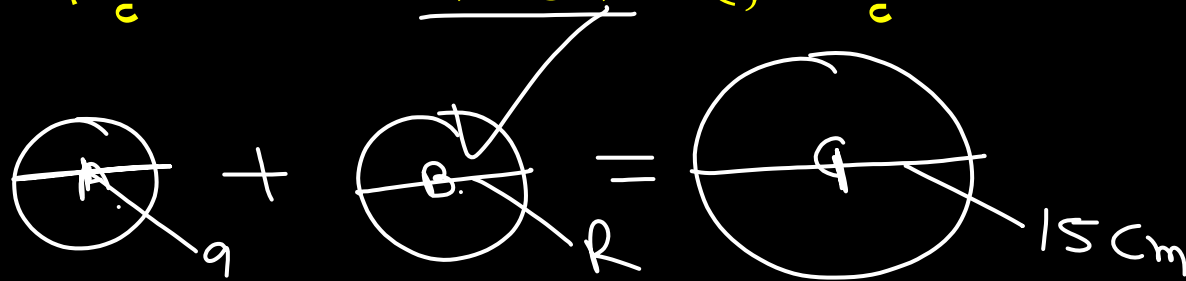
$$P = S + S + 8 \\ = 18 \text{ cm}$$



- a) 10 cm
- b) 20 cm
- c) 18 cm
- d) 9 cm

The sum of areas of two circles A and B is equal to the area of a third circle C whose diameter is 30 cm. If the diameter of circle A is 18 cm, then the radius of circle B is:

दो वृत्तों A और B के क्षेत्रफलों का योग तीसरे वृत्त C के क्षेत्रफल के बराबर है जिसका व्यास 30 सेमी है। यदि वृत्त A का व्यास 18 सेमी है, तो वृत्त B की त्रिज्या है:



$$\pi(a^2) + \pi R^2 = \pi(15)^2$$
$$81 + R^2 = 225$$
$$R^2 = 225 - 81$$
$$R^2 = 144$$
$$R = 12$$

a) 15 cm

b) 10 cm

c) 18 cm

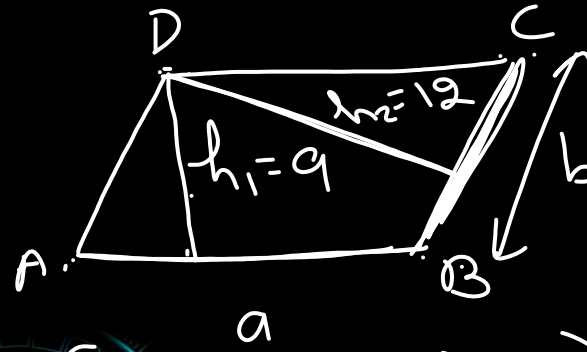
d) 12 cm

A parallelogram has an area of 180 cm^2 . ,If the distance between its opposite sides are 9 cm and 12 cm, find the sides of a parallelogram?

एक समांतर चतुर्भुज का क्षेत्रभुज 180 सेमी^2 .,यदि विपरीत भुजाओ के बीच की दुरी क्रमशः 9 सेमी और 12 सेमी है. समांतर चतुर्भुज की भुजाएं ज्ञात कीजिये ?

$$A = \text{Base} \times \text{height}$$
$$\frac{180}{9} = a \times 9$$
$$a = 20$$

$$A = \text{Base} \times \text{height}$$
$$\frac{180}{12} = b \times 12$$
$$b = 15$$



a) 20cm ,15 cm

~~b) 15cm ,10 cm~~

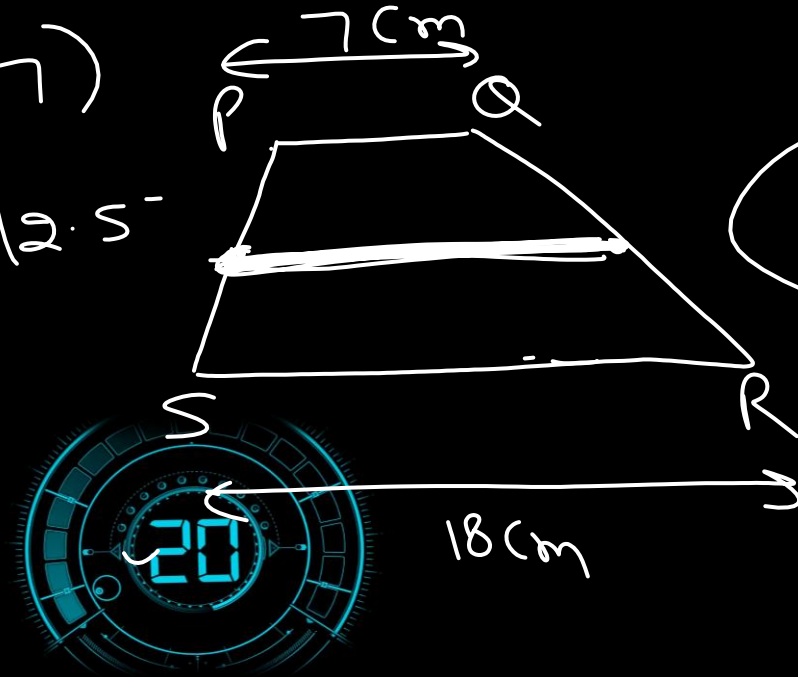
c) 20 cm ,18 cm

~~d) 12 cm , 18 cm~~

Let PQRS is the trapezium where $PQ \parallel SR$ what is the length of line drawn from midpoint of the non parallel side if the length of PQ is 7 cm and SR is 18 cm?

माना कि PQRS समलम्ब है जहां $PQ \parallel SR$ है यदि PQ की लंबाई 7 सेमी और SR 18 सेमी है तो गैर-समानांतर भुजाओं के मध्य बिंदु से खींची गई रेखा की लंबाई क्या है?

$$\begin{aligned} \text{Median} &= \frac{1}{2}(18 + 7) \\ &= \frac{25}{2} = 12.5 \end{aligned}$$



a) 12.5 cm

b) 10.5 cm

c) 22.5 cm

d) 17.5 cm

If the perimeter of the triangle is 60 cm, and the ratio of the sides of the triangle is 5 : 12 : 13 then, Find the area of triangle.

यदि त्रिभुज का परिमाण 60 सेमी है, और त्रिभुज की भुजाओं का अनुपात 5 : 12 : 13 है, तो त्रिभुज का क्षेत्रफल ज्ञात कीजिए।

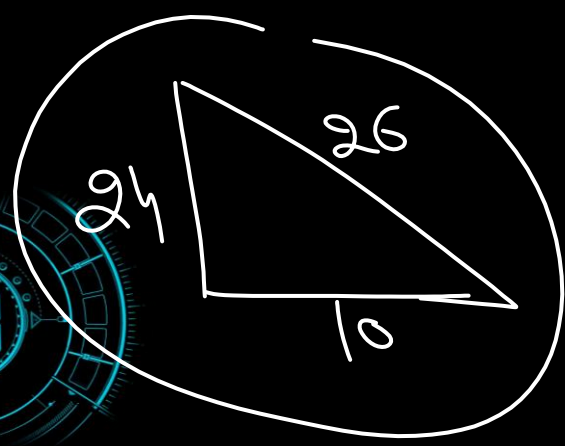
10 24 26

$$5x + 12x + 13x = 60$$

$$30x = 60$$

$$x = 2$$

$$A = \frac{1}{2} \times 10 \times 24$$
$$= 120 \text{ cm}^2$$



a) 30 cm²

b) 60 cm²

c) 90 cm²

d) 120 cm²

If the diagonals of a rhombus are 4.8cm and 1.4cm, then what is the perimeter of the rhombus?

यदि एक समचतुर्भुज के विकर्ण 4.8 सेमी और 1.4 सेमी हैं, तो समचतुर्भुज का परिमाण क्या है?

$$AC = 4.8, AO = 2.4$$

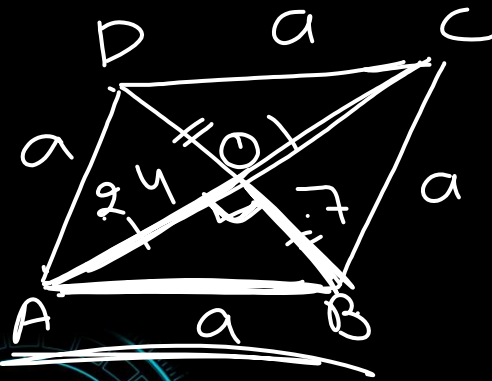
$$BD = 1.4, BO = 0.7$$

$$a^2 = 2.4^2 + 0.7^2$$
$$= 5.76 + 0.49$$

$$a^2 = 6.25$$

$$a = 2.5$$

$$p = 4a = 4 \times 2.5$$
$$= 10 \text{ cm}$$



a) 20 cm

b) 10 cm

c) 15 cm

d) 25 cm

If perimeter of a rhombus is 100 cm and length of one diagonal is 48 cm, what is the area of the rhombus ?

एक समचतुर्भुज का परिमाण 100 सेमी है और विकर्णों में से एक 48 सेमी है। समचतुर्भुज का क्षेत्रफल वर्ग सेमी में क्या है:

$$4a = 100$$
$$a = 25$$

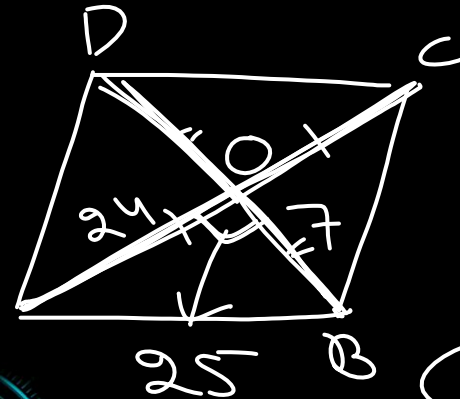
$$25^2 = 24^2 + BO^2$$

$$BO^2 = 625 - 576$$

$$BO^2 = 49$$

$$BO = 7$$

$$BD = 14 \text{ cm}$$



$$A = \frac{1}{2} d_1 \times d_2$$
$$A = \frac{1}{2} \times 48 \times 14$$
$$= 336 \text{ cm}^2$$

a) 168

b) 336

c) 175

d) 84

The area of rhombus is 294 cm^2 and one diagonal is thrice the length of the other diagonal. The side of rhombus is

समचतुर्भुज का क्षेत्रफल 294 सेमी^2 है और एक विकर्ण दूसरे विकर्ण की लंबाई का तीन गुना है।
समचतुर्भुज की भुजा

H.W



- a) 11
- b) $7\sqrt{10}$
- c) $8\sqrt{10}$
- d) $10\sqrt{10}$

