SSC CHSL 2022-23

MATHS

TRIGONOMETRY

DAY-3

REVISION CLASS

TRIGONOMETRY के प्रश्न सेकेण्डों में SOLVE करें!

BY SUNIL MAHENDRAS

LIVE | 08:15 PM

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@mohit..9476 19 hours ago

Thank-you Sir for this Wonderful and Amazing Class Session of today's..🙏😇

एंड

My Answer for today's Homework is-

Option C == 2...

Read more

1 Reply

@Ravi.1 19 hours ago

2🌿🌿

2 Reply

@nishthashukla7405 19 hours ago

Homework Answer

Option C 👍 2 👍

Thanku so much sir for this wonderful session

🙏🙏🥰🥰

1 Reply

@subhamoyghosh8498 19 hours ago

Hw ans opt c 2

1 Reply

@surbhisinha7315 17 hours ago

Homework question answer 🤟 option ccccc ,2222

1 Reply

@aishikaghosh9030 19 hours ago

C. 2

1 Reply

@zikrayasmeen4058 18 hours ago

Option C

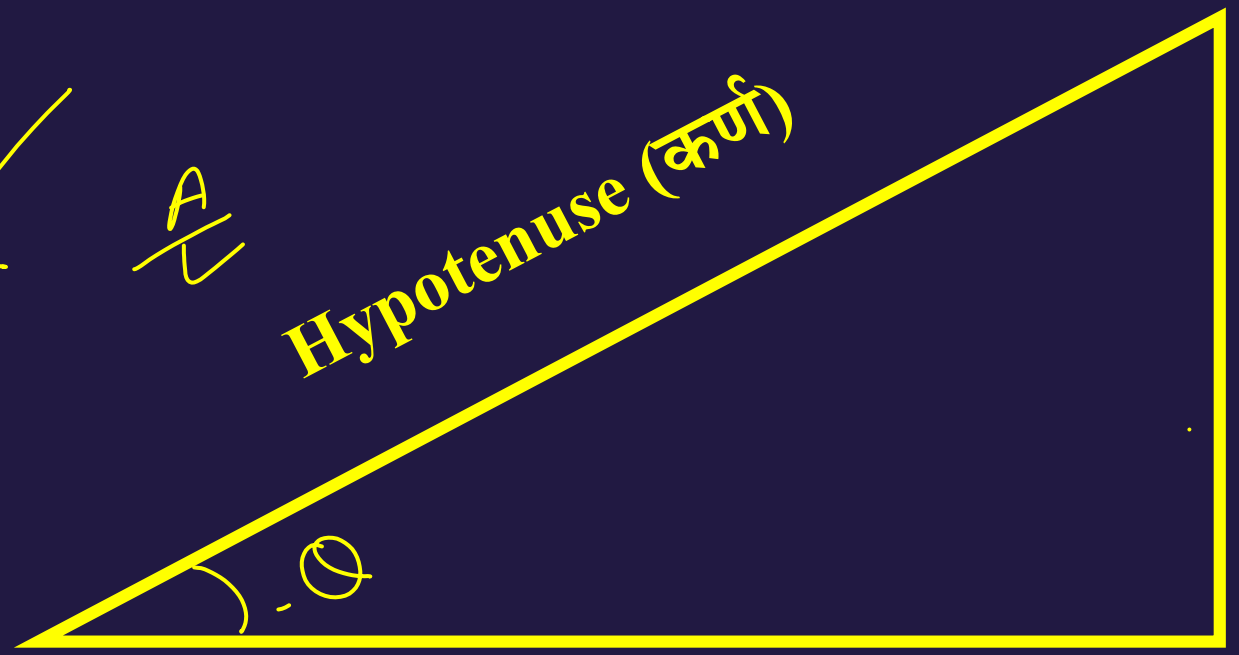
1 Reply

Trigonometry

त्रिकोणमिति

S·C·T
L A L
K K A
S C T
P B P
H H B

A/L



$\sin\theta = \frac{1}{\operatorname{cosec}\theta}$

$\cos\theta = \frac{1}{\sec\theta}$

$\tan\theta = \frac{1}{\cot\theta}$

$\sec\theta = \frac{H}{B}$

$\operatorname{cosec}\theta = \frac{H}{P}$

- Trigonometry Table
- Trigonometry Formulas
- Trigonometric functions

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$\frac{0}{1} = 0$ $\quad$ $\frac{1}{0} = \infty$

$\sin 0 = 0$

$\cos 0 = 1$

$\tan 0 = 0$

$\operatorname{cosec} 0 = \infty$

$\sec 0 = 1$

$\cot 0 = \infty$

$\sin 90 = 1$

$\cos 90 = 0$

$\tan 90 = \infty$

$\operatorname{cosec} 90 = 1$

$\sec 90 = \infty$

$\cot 90 = 0$

$\sin 45 = \frac{1}{\sqrt{2}}$

$\cos 45 = \frac{1}{\sqrt{2}}$

$\tan 45 = 1$

$\sin 30 = \frac{1}{2}$

$\cos 30 = \frac{\sqrt{3}}{2}$

$\tan 30 = \frac{1}{\sqrt{3}}$

$\operatorname{cosec} 30 = 2$

$\sec 30 = \frac{2}{\sqrt{3}}$

$\cot 30 = \sqrt{3}$

$\sin 60 = \frac{\sqrt{3}}{2}$

$\cos 60 = \frac{1}{2}$

$\tan 60 = \sqrt{3}$

$\operatorname{cosec} 60 = \frac{2}{\sqrt{3}}$

$\sec 60 = 2$

$\cot 60 = \frac{1}{\sqrt{3}}$

Trigonometry Table

θ	0°	30°	45°	60°	90°
sinθ	0	1/2	$1/\sqrt{2}$	$\sqrt{3}/2$	1
cos θ	1	$\sqrt{3}/2$	$1/\sqrt{2}$	1/2	0
tan θ	0	$1/\sqrt{3}$	1	$\sqrt{3}$	∞
cot θ	∞	$\sqrt{3}$	1	$1/\sqrt{3}$	0
sec θ	1	$2/\sqrt{3}$	$\sqrt{2}$	2	∞
cosec θ	∞	2	$\sqrt{2}$	$2/\sqrt{3}$	1

Rule – 1 : 90^0 *or* 270^0 ⟷ Start ⟷ Change

$\sin\theta \longleftrightarrow \cos\theta$, $\tan\theta \longleftrightarrow \cot\theta$, $\sec\theta \longleftrightarrow \text{cosec}\,\theta$

Rule – 2 : 180^0 *or* 360^0 ⟷ Start ⟷ No Change

$\sin\theta \longleftrightarrow \sin\theta$
$\cos\theta \longleftrightarrow \cos\theta$
$\tan\theta \longleftrightarrow \tan\theta$
$\cot\theta \longleftrightarrow \cot\theta$
$\sec\theta \longleftrightarrow \sec\theta$
$\text{cosec}\,\theta \longleftrightarrow \text{cosec}\,\theta$

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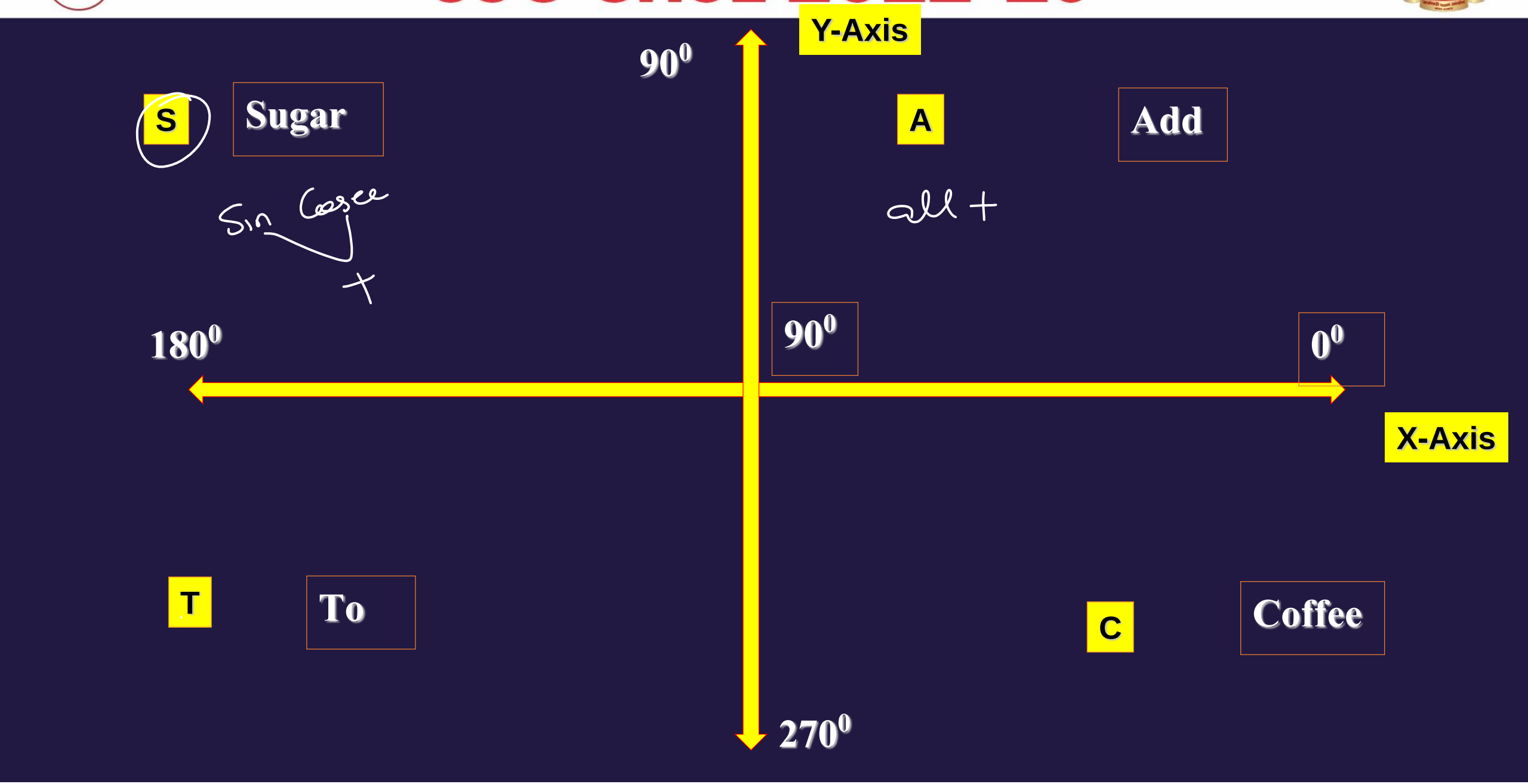

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Find the value of मान ज्ञात कीजिए।

$[\tan(90 - A) + \cot(90 - A)]^2/[2\sec^2(90 - 2A)] = ?$

$$\Rightarrow \frac{[\cot A + \tan A]^2}{2\,\mathrm{Cosec}^2 2A}$$

$$\Rightarrow \frac{\left[\frac{\cos A}{\sin A} + \frac{\sin A}{\cos A}\right]^2}{2\,\mathrm{Cosec}^2 2A}$$

$$\Rightarrow \frac{\left[\frac{\cos^2 A + \sin^2 A}{\sin A \cos A}\right]^2}{2 \times \frac{1}{\sin^2 2A}}$$

$$\frac{1}{\sin^2 A \cos^2 A} \times \frac{4 \sin^2 A \cos^2 A}{2}$$

$$= 2 \text{ Ans}$$

$\sin 2\theta = 2\sin\theta\cos\theta$

$\sin^2 2\theta = 4\sin^2\theta\cos^2\theta$

a) 0
b) 1
c) 2
d) -1

If $\sin(A+B)=\frac{\sqrt{3}}{2}$ and $\cos(A-B)=\frac{\sqrt{3}}{2}$

then which of the following will be possible values of A and B

तब निम्नलिखित में से A और B के कौन से संभावित मान होंगे??

Sol

$\sin(A+B)=\frac{\sqrt{3}}{2}$ — (1)

LHS $\sin 60^\circ$

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

$\cos(A-B)=\frac{\sqrt{3}}{2}$

LHS $\cos 30=\frac{\sqrt{3}}{2}$

a) A = 45°, B = 15°

b) A = 45°, B = 30°

c) A = 10°, B = 45°

d) A = 50°, B = 10°

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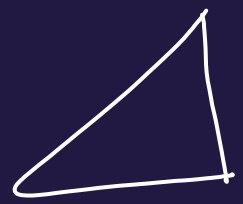
If (यदि) 16 cot A = 12, then find the value of (का मान ज्ञात कीजिये।)

$$\frac{\sin A+\cos A}{\sin A-\cos A} = ?$$

$16\cot A = 12$

$\cot A = \frac{12}{16} = \frac{3}{4} \quad -(1)$



N & D is divided by $\sin A$

$$\Rightarrow \frac{\sin A+\cos A}{\sin A-\cos A}$$

$$= \frac{1+\cot A}{1-\cot A} = \frac{1+\frac{3}{4}}{1-\frac{3}{4}} = \frac{\frac{7}{4}}{\frac{1}{4}} = 7$$

a) 5
b) 8
c) 6
d) 7

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What is the value of का मान क्या है?

$\sin 24° \sin 66° - \cos 24° \cos 66° + \tan 24° \tan 66° - \cot 24° \cot 66°$

$\sin(90-66) \times \sin(90-24) - \cos 24 \cos 66 + \tan(90-66) \tan(90-24)$

$\cos 66 \cos 24 - \cos 24 \cos 66 + \cot 66 \cot 24 - \cot 24 \cot 66$

$\sin(90-\theta) = \cos\theta$

$= 0$ Ans

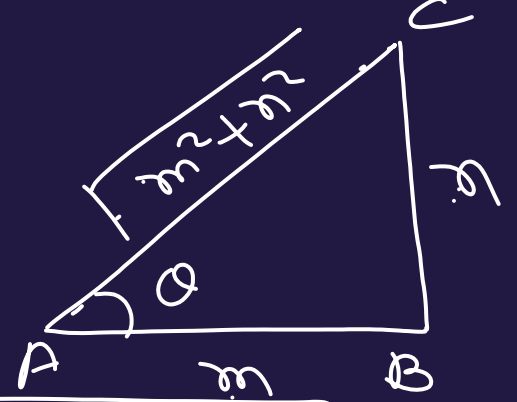
a) 0
b) 1
c) 2
d) 3

If (यदि) $\cot\theta = m/n$,

then find the value of (का मान ज्ञात कीजिए)

$(1 + \sin^2\theta - \cos^2\theta)/(3\tan\theta \cot\theta + 1)$.

$\cot\theta = \frac{m}{n} = \frac{B}{P}$



$\sin\theta = \frac{n}{\sqrt{m^2+n^2}}$

$\cot\theta = \frac{A}{L}$

$\Rightarrow \frac{1+\sin^2\theta-\cos^2\theta}{3\tan\theta\cot\theta+1}$

$\Rightarrow \frac{1+\sin^2\theta-(1-\sin^2\theta)}{4}$

$\Rightarrow \frac{1+\sin^2\theta-1+\sin^2\theta}{4} = \frac{2\sin^2\theta}{4}$

$\Rightarrow \frac{\sin^2\theta}{2} \Rightarrow \frac{n^2}{2(m^2+n^2)}$

a) $n^2/2(m^2 + n^2)$

b) $2(m^2 + n^2)$

c) n^2/m^2

d) 1

find the value of (का मान ज्ञात कीजिए)

$[(\tan^2 45° + \sec^2 60° \sin^2 30° + \cos^2 90° \sin^2 60°)/(\text{cosec}^2 90° + \cot 90° \sin 60°)]$?

$$\frac{1 + \cancel{4} \times \frac{1}{\cancel{4}} + 0}{1 + 0} = \frac{2}{1} = 2$$ Ans

$\tan 45° = 1$
$\sec 60° = 2$
$\sin 30° = \frac{1}{2}$
$\cos 90° = 0$
$\text{cosec}\, 90° = 1$
$\cot 90° = 0$

a) 3/2
b) 3
c) 0
d) 2

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If $\sqrt{3}sinx - cosx = 0$ (x is an acute angle) then value of $\cos^3 x - \sqrt{3}\sin^3 x$ will be

यदि $\sqrt{3}sinx - cosx = 0$ (x एक न्यूनकोण है) तो $\cos^3 x - \sqrt{3}\sin^3 x$ का मान होगा:

$\sqrt{3}\sin\theta = \cos\theta$

$\frac{\sin\theta}{\cos\theta} = \frac{1}{\sqrt{3}}$

$\tan\theta = \frac{1}{\sqrt{3}} = \tan 30$

$\theta = 30$

$\cos^3 30 - \sqrt{3}\sin^3 30$

$\left(\frac{\sqrt{3}}{2}\right)^3 - \sqrt{3}\left(\frac{1}{2}\right)^3$

$\frac{3\sqrt{3}}{8} - \frac{\sqrt{3}}{8} \Rightarrow \frac{2\sqrt{3}}{8} = \frac{\sqrt{3}}{4}$

a) –1

b) $3/\sqrt{4}$

c) $3/\sqrt{2}$

d) $\frac{\sqrt{3}}{4}$

If tan A = 5/9, then what the value of [5 sin A + 9 cos A]/[5 sin A - 9 cos A]?

यदि tan A = 5/9 है, तो [5 sin A + 9 cos A]/[5 sin A - 9 cos A] का मान क्या है?

$\tan A = \frac{5}{9}$

$\Rightarrow \frac{5\sin A + 9\cos A}{5\sin A - 9\cos A}$

H & D is divided by $\cos A$

$\Rightarrow \frac{5\tan A + 9}{5\tan A - 9} \Rightarrow \frac{5 \times \frac{5}{9} + 9}{5 \times \frac{5}{9} - 9}$

$\frac{\frac{106}{9}}{-\frac{56}{9}} = -\frac{53}{28}$

A

a) 17/12

b) -53/28

c) -27/25

d) 31/23

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If $\frac{\sin^2\theta}{1+\cos^2\theta} + \frac{\sin^2\theta}{1-\cos^2\theta} = \frac{8}{5}$ and θ is acute(न्यून कोण है) ,
Then what is the value of θ

तो θ का मान क्या है?

हल

$$\frac{\sin^2\theta}{1+\cos^2\theta} + \frac{\sin^2\theta}{\sin^2\theta} = \frac{8}{5}$$

$$\sin^2\theta + \cos^2\theta = 1$$

$$\frac{1-\cos^2\theta}{1+\cos^2\theta} = \frac{8}{5} - 1 = \frac{3}{5}$$

$$\frac{1-\cos^2\theta}{1+\cos^2\theta} = \frac{3}{5} \Rightarrow 5 - 5\cos^2\theta = 3 + 3\cos^2\theta$$

$$4 = 8\cos^2\theta$$

$$\cos^2\theta = \frac{1}{2}$$

$$\cos\theta = \frac{1}{2} = \cos 60$$

$$\theta = 60$$

a) 0
b) 30
c) 45
d) 60

Find the minimum value of $25 \sin^2\theta + 14 \cos^2\theta$

$25 \sin^2\theta + 14 \cos^2\theta$ का न्यूनतम मान क्या है?

H.W

a) 12
b) 39
c) 11.5
d) 14

Find the value of $\sin 75^0$

$\sin 75^0$ का मान ज्ञात कीजिए

H.W

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Thanks For WATCHING