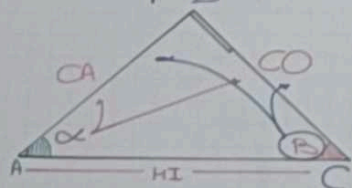


2 RAZONES TRIGONOMETRICAS



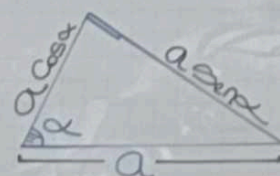
$$\begin{aligned} \text{Sen } \alpha &= \frac{CO}{HI} \\ \text{Cos } \alpha &= \frac{CA}{HI} \\ \text{Tg } \alpha &= \frac{CO}{CA} \\ \text{ctg } \alpha &= \frac{CA}{CO} \\ \text{Sec } \alpha &= \frac{HI}{CA} \\ \text{Csc } \alpha &= \frac{HI}{CO} \end{aligned} \quad \alpha + \beta = 90^\circ$$

R.T. Reciprocas

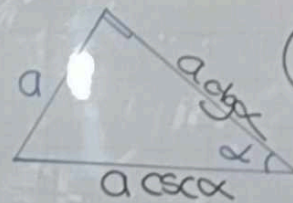
$$\begin{aligned} \text{Sen } \alpha \cdot \text{Csc } \alpha &= 1 \\ \text{Cos } \alpha \cdot \text{Sec } \alpha &= 1 \\ \text{Tg } \alpha \cdot \text{ctg } \alpha &= 1 \end{aligned}$$

R.T. Complementarias

$$\begin{aligned} \text{Sen } \alpha &= \text{Cos } \beta \\ \text{Tg } \alpha &= \text{ctg } \beta \\ \text{Sec } \alpha &= \text{csc } \beta \end{aligned} \quad \alpha + \beta = 90^\circ$$

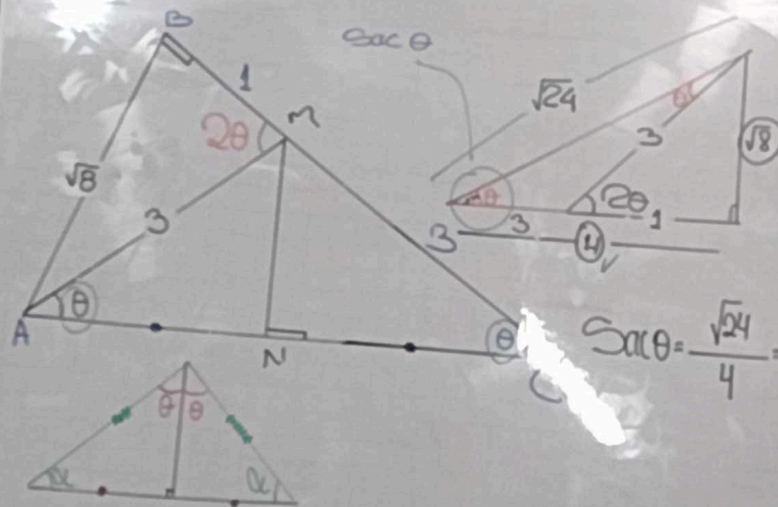


$$\begin{aligned} \frac{CO}{HI} &\rightarrow \text{Sen } \alpha \\ \frac{CA}{HI} &\rightarrow \text{Cos } \alpha \end{aligned}$$



$$\begin{aligned} \frac{HI}{CO} &\rightarrow \text{csc } \alpha \\ \frac{CA}{CO} &\rightarrow \text{ctg } \alpha \end{aligned}$$

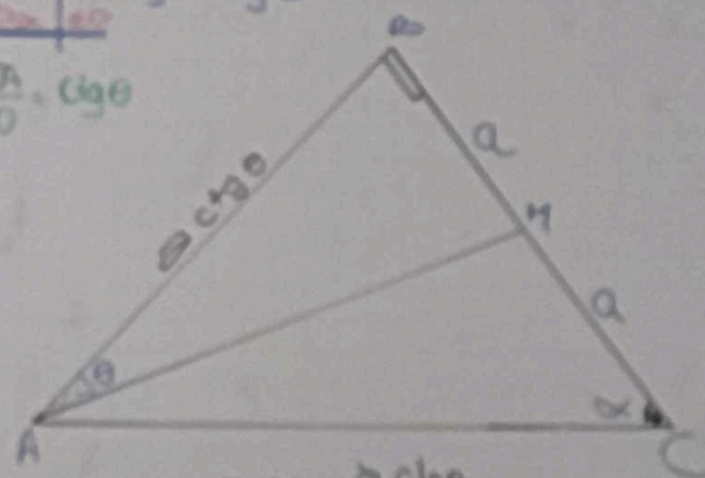
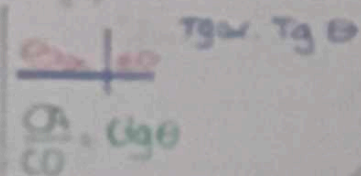
$\sin \theta$
 $\cos \theta$
 $\tan \theta$



$$\sec \theta = \frac{\sqrt{24}}{4} = \frac{2\sqrt{6}}{4} = \left(\frac{\sqrt{6}}{2}\right)$$



$$\sin \theta = \frac{\sqrt{24}}{4} = \frac{2\sqrt{6}}{4} = \left(\frac{\sqrt{6}}{2}\right)$$



$$T_g \propto \frac{\Delta C_{p,00}}{\Delta \alpha}$$

$$\tan \alpha = \frac{1}{2} \quad \textcircled{1}$$

$$\log x = \frac{1}{2} \cdot \frac{1}{100}$$

192-196-1

$$\frac{d}{dx} \ln x = \frac{1}{x}$$

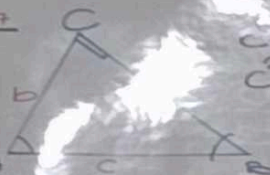
ClgW.Clg0-2

$$\frac{1}{198} - \frac{1}{199} = \frac{1}{198 \cdot 199}$$

1940-1941

$$C^2 = a^2 + b^2$$

$$C^2 - b^2 = a^2$$



$$N = \frac{c(1+\cos A)(1-\sin B)}{2\sin A - \cos B}$$

$$N = \frac{c(1+\frac{b}{c})(1-\frac{1}{2})}{2\frac{a}{c} - \frac{a}{c}} = \frac{c(1+\frac{b}{c})(\frac{1}{2})}{\frac{a}{c}}$$

$$N = \frac{c(\frac{c^2+b^2}{c^2})}{\frac{a}{c}} = \frac{c \cdot \frac{a^2}{c^2}}{\frac{a}{c}} = \frac{a^2}{a} = a$$

Sol 06
 $\sin 2x = \cos 3x$
 $E = 4 \operatorname{tg}(2x+1) + 3 \operatorname{tg}(3x-1)$

$\sin A = \cos B \Leftrightarrow A+B=90^\circ$

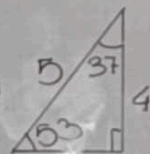
$2x+3x=90$

$5x=90$

$x=18$

$E = 4 \operatorname{tg} 37^\circ + 3 \operatorname{tg} 53^\circ$

$4 \cdot \frac{3}{4} + 3 \cdot \frac{4}{3} = 7$



Sol 05

$\sin(2x-y-20) \cdot \cos(\frac{3x}{2}-2y)$

$2x-y-20 + \frac{3x}{2}-2y = 90$

$2x + \frac{3x}{2} = 110 + 3y$

$7x = 220 + 6y$

$7(120-8y) = 220 + 6y$

$840 - 56y = 220 + 6y$

$620 = 62y$

$(10-y)$

$\operatorname{tg}(\frac{x}{2}+3y) \cdot \operatorname{tg}(\frac{x}{4}+3y) = 1$

$\operatorname{tg}(\frac{x}{2}+3y) \cdot \frac{1}{\operatorname{tg}(\frac{x}{4}+3y)} = \operatorname{ctg}(\frac{x}{4}+3y)$

$\frac{x}{2}+3y + \frac{x}{4}+3y = 90$

$\frac{2x+12y+x+12y}{4} = 90$

$3x+24y = 4(90)$

$x+8y = 120$

$x = 120-8y$

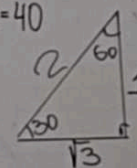
$x=40$

$W = \csc^2(x-y) + \csc^2 3y$

$\csc^2(30) + \csc^2 30$

$2+2$

(8)



2

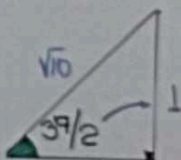
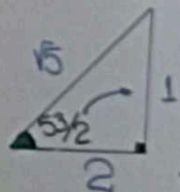
Ex 104 $\sin \alpha = 0.6$; $\sin \theta = 0.8$

$$F = Tg \frac{8}{6} + Tg \frac{8}{6}$$

$\sin \alpha = \frac{6}{10} = \frac{3}{5}$
 $37^\circ = \alpha$

$\sin \theta = \frac{8}{10} = \frac{4}{5}$
 $53^\circ = \theta$

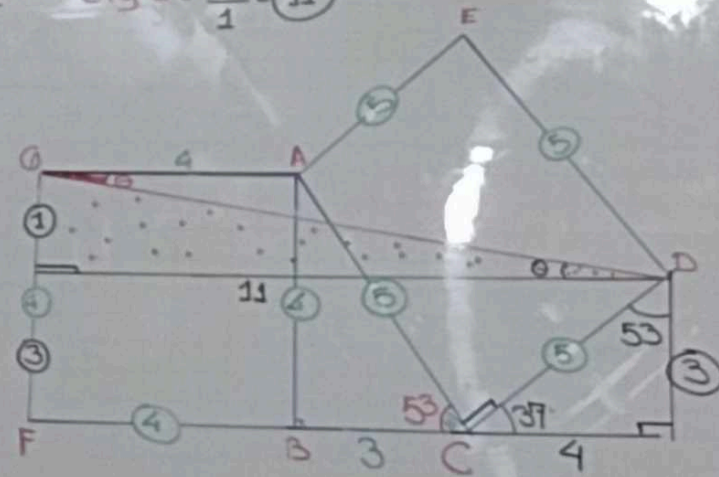
$$F = Tg \frac{37}{2} + Tg \frac{53}{2}$$

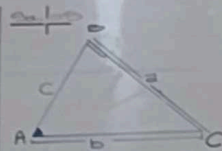
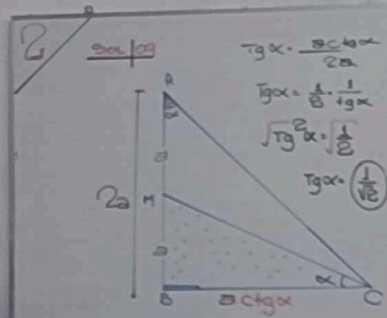


$$F = \frac{1}{3} + \frac{1}{2} = \frac{5}{6}$$

Ex 105

$$\operatorname{ctg} \theta = \frac{11}{1} = 11$$





$$\begin{aligned}
 &(a+b)^2 = 9ab \\
 &a^2 + 2ab + b^2 = 9ab \\
 &a^2 + b^2 = 7ab \\
 &E = \frac{\sin A + \csc A}{\frac{a}{b} + \frac{b}{a}} \\
 &\frac{a^2 + b^2}{ab} = \frac{7ab}{ab} = 7
 \end{aligned}$$

$N \cdot \frac{c(1 + \cos A)(1 - \sin A)}{2 \sin A - \cos B}$
 $N \cdot \frac{c(1 + \frac{b}{c})(1 - \frac{1}{2})}{2 \frac{a}{c} - \frac{a}{c}} \cdot \frac{c(1 - \frac{b^2}{c^2})}{\frac{a}{c}}$
 $N \cdot \frac{c(\frac{c^2 - b^2}{c^2})}{\frac{a}{c}} = \frac{2 \cdot \frac{a^2}{c^2}}{\frac{a}{c}} = \frac{2a^2}{c}$