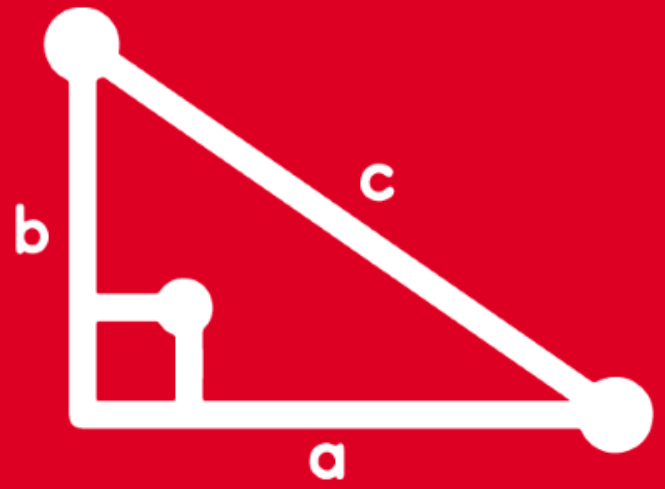
TRIGONOMETRY

TOMO VI

3RD
SECONDARY



FEEDBACK

SACO OLIVEROS


Tus metas
SON MÁS
Grandes
QUE TUS
MIEDOS

1 Reduzca :

$$E = \frac{\cot(-x)}{\cot x} - \frac{3\sec(-x)}{\sec x}$$

$\cot(-x) = -\cot x$

$\sec(-x) = \sec x$

Resolución:

$$E = \frac{\cot(-x)}{\cot x} - \frac{3\sec(-x)}{\sec x}$$

$$E = \frac{-\cot(x)}{\cot x} - \frac{3\sec(x)}{\sec x}$$

$$E = -1 - 3$$

$$\therefore E = -4$$

2 Reduzca:

$M = \sec(-60°) \cdot \tan(-53°)$

$\tan(-x) = -\tan x$

$\sec(-x) = \sec x$

$\tan 53° = \frac{4}{3}$

$\sec 60° = 2$

Resolución:

$M = \sec(-60°) \cdot \tan(-53°)$

$M = \sec 60° \cdot (-\tan 53°)$

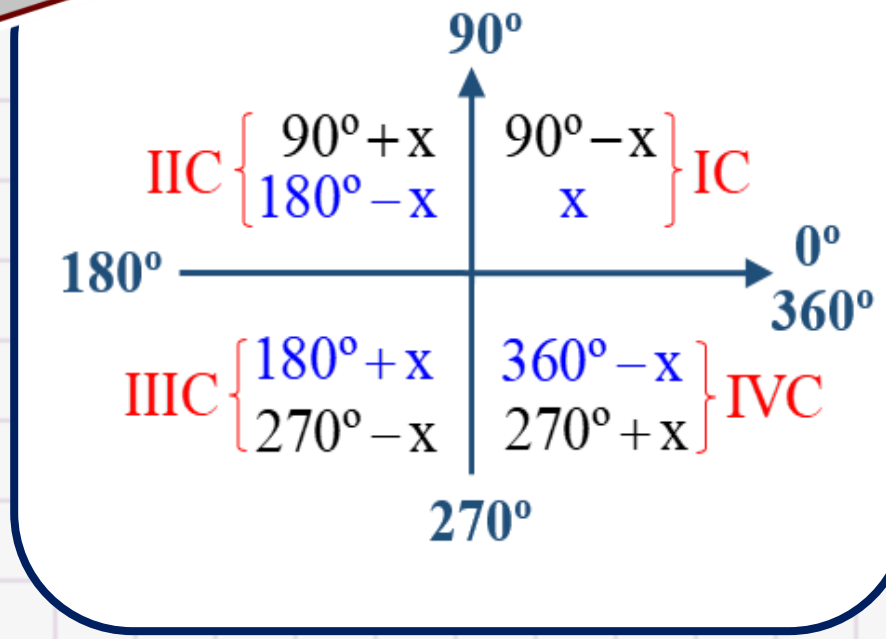
$M = 2 \cdot (-\frac{4}{3})$

$M = -\frac{8}{3}$

$\therefore M = -\frac{8}{3}$

3 Simplifique:

$$P = 7\sec(360°-x) - 2\csc(90°-x)$$



Resolución:

$$P = 7\sec(360°-x) - 2\csc(90°-x)$$

IVC IC

$$P = 7\sec x - (2\sec x)$$

$$P = 7\sec x - 2\sec x$$

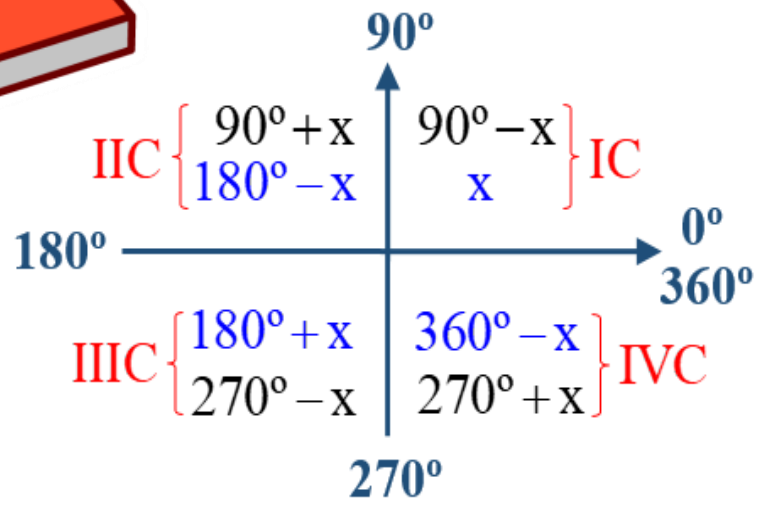
$$P = 5\sec x$$

$$\therefore P = 5\sec x$$

4

Reduzca :

$$R = \operatorname{sen}217° \cdot \cos 300°$$



Resolución:

$$R = \operatorname{sen}\overbrace{217°}^{\text{IIIC}} \cdot \cos\overbrace{300°}^{\text{IVC}}$$

$$R = \operatorname{sen}(180° + 37°) \cdot \cos(360° - 60°)$$

$$R = -\operatorname{sen}37° \cdot (\cos 60°)$$

$$R = \left(-\frac{3}{5}\right) \cdot \left(\frac{1}{2}\right)$$

$$\therefore R = -\frac{3}{10}$$

5 Reduzca

$$\text{sen}5453°$$

$$\text{sen}53° = \frac{4}{5}$$

Resolución:

$$E = \text{sen}5453°$$

$$\begin{array}{r|l} 5453° & 360° \\ \hline (53°) & 15 \end{array}$$

$$E = \text{sen}(360° \cdot 15 + 53°)$$

$$E = \text{sen}53° = \frac{4}{5}$$

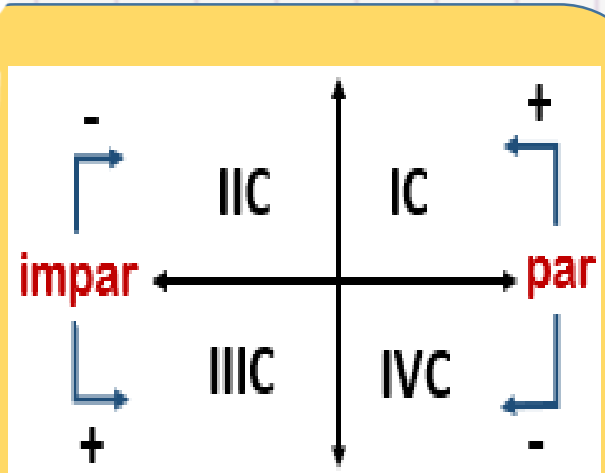
$$\therefore E = 0{,}8$$

6

Reduzca:

$A = \operatorname{sen}(38\pi - x)$

$B = \cot(51\pi + x)$



Resolución:

IVC

$A = \operatorname{sen}(38\pi - x)$

par

$\therefore A = -\operatorname{sen}x$

IIIC

$B = \cot(51\pi + x)$

impar

$\therefore B = \cot x$

7

Reduzca:

a). $\sec\left(\frac{43\pi}{2} -\right.$

b). $\operatorname{sen}\left(\frac{73\pi}{2} + x\right)$

$\frac{3\pi}{2}\text{rad} <> 270°$

$\frac{\pi}{2}\text{rad} <> 90°$

Resolución:

a. $\sec\left(\frac{43\pi}{2} -\right.$

$43 \mid 4$

$(3) \mid 10$

0

43

$\sec\left(\frac{3\pi}{2} - x\right)$

IIIC

$\therefore -\text{CSC}x$

b. $\operatorname{sen}\left(\frac{73\pi}{2} + x\right)$

$73 \mid 4$

$(1) \mid 18$

$\operatorname{sen}\left(\frac{1\pi}{2} + x\right)$

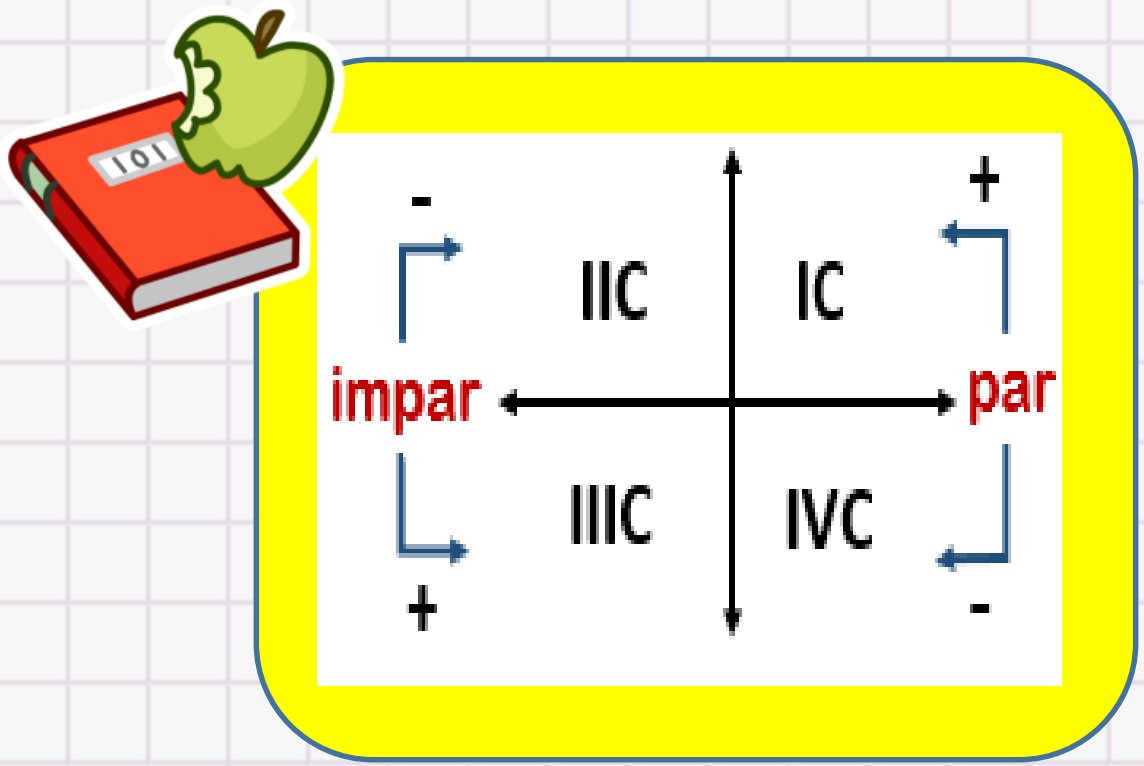
IIC

$\therefore$

$\cos x$

8 Reduzca:

$$E = 8\tan(55\pi - x).3\cot(46\pi + x)$$



Resolución:

IIC → Impar; IC → Par

$$E = 8\tan(55\pi - x).3\cot(46\pi + x)$$

$$E = -8\tan x.3\cot x$$

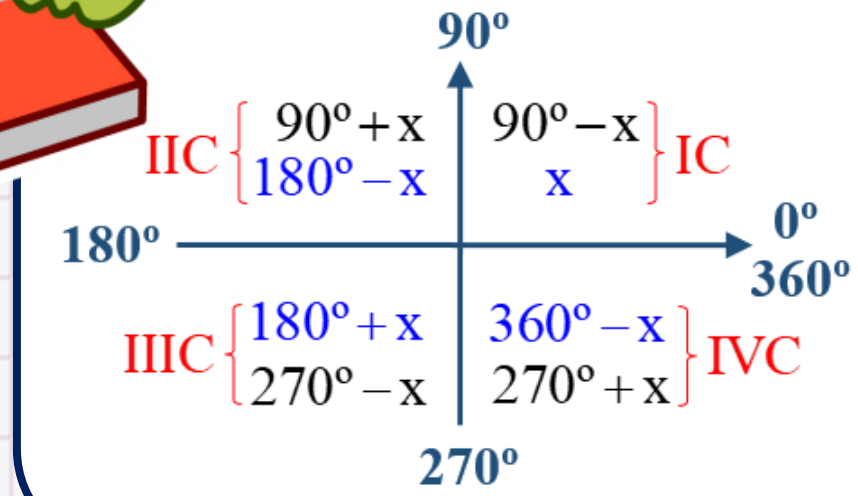
$$E = -24\underbrace{\tan x.\cot x}_{1}$$

$$E = -24$$

$$\therefore E = -24$$

9 Si $x+y=\frac{3\pi}{2}$ rad, reduzca:

$$F=\frac{\sec x}{\csc y}+\frac{\operatorname{sen} x}{\cos y}$$



Resolución:

$$x=270°-y$$

$$F=\frac{\overbrace{\sec(270°-y)}^{\text{IIIC}}}{\csc y}+\frac{\overbrace{\operatorname{sen}(270°-y)}^{\text{IIIC}}}{\cos y}$$

$$F=\frac{-\csc y}{\csc y}+\frac{-\cos y}{\cos y}$$

$$F=-1-1=-2$$

$$\therefore F=-2$$

10

María desea matricularse en un curso básico de francés para lo cual averiguó los siguientes institutos de idiomas y su costo mensual.

Instituto de idioma	Costo mensual (S/)
Alianza francesa	**A**
Idiomas Católica	**B**
Euroidiomas	**C**

Si el sueldo mensual de María es de S/800 de lo cual la mitad esta destinada a alimentación y movilidad ¿ Cuál será la mejor opción de María?

Donde: $A = 475\text{sen}\left(\frac{5\pi}{2}\right)$ $B = 235\csc\left(\frac{13\pi}{6}\right)$

$C = 187\sec^2 315°$

Resolución:

$A = 475\text{sen}\left(\frac{5\pi}{2}\right)$

$A = 475\text{sen}\left(\frac{1\pi}{2}\right)$

$A = 475\text{sen}(90°)$

$A = 475$

$B = 235.\csc\left(\frac{13\pi}{6}\right)$

$B = 235.\csc\left(\frac{1\pi}{6}\right)$

$B = 235.\csc(30°)$

$B = 235(2)$

$B = 470$

$C = 187\sec^2 315°$

$C = 187\sec^2(360° - 45°)$

$C = 187\sec^2(45°)$

$C = 187(2)$ $C = 374$

∴ La mejor opción es el instituto Euroidiomas.

SACO OLIVEROS