



TRIGONOMETRY

TOMO 6

3rd
SECONDARY

REVIEW





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:

$$M = \sec(-60^\circ) \cdot \tan(-53^\circ)$$



$$\begin{aligned}\tan(-x) &= -\tan x \\ \sec(-x) &= \sec x\end{aligned}$$



$$\tan 53^\circ = \frac{4}{3}$$

$$\sec 60^\circ = 2$$

Resolución:

$$M = \sec(-60^\circ) \cdot \tan(-53^\circ)$$

$$M = \sec 60^\circ \cdot (-\tan 53^\circ)$$

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

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

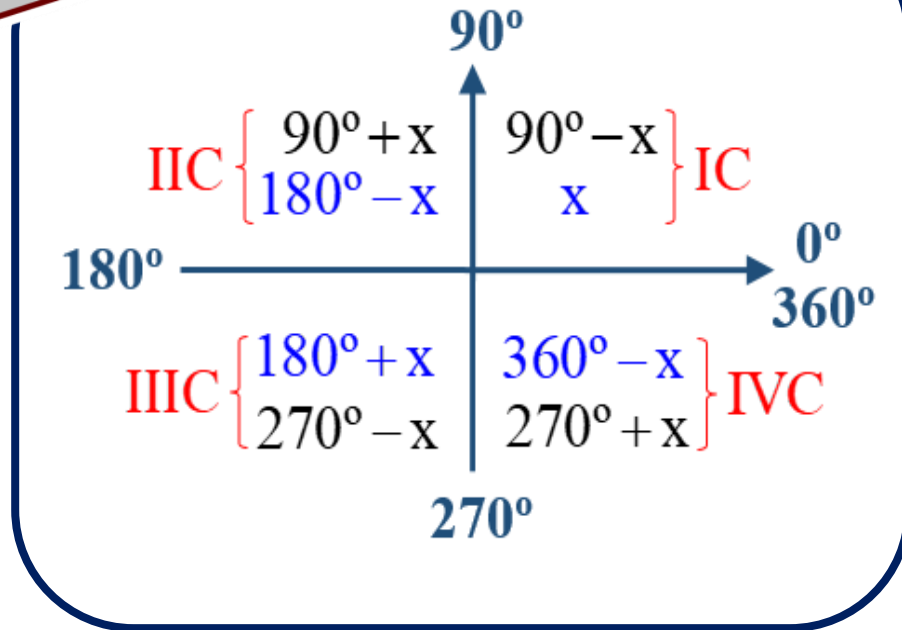
$$\therefore M = -\frac{8}{3}$$



3

Simplifique:

$$P = 7\sec(360^\circ - x) - 2\csc(90^\circ - x)$$

**Resolución:**

$$P = 7\sec(360^\circ - x) - 2\csc(90^\circ - x)$$

IVC

IC

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

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

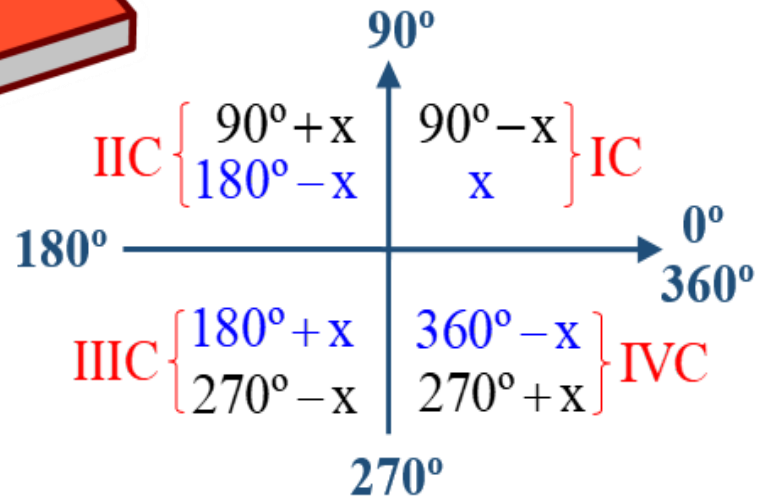
$$P = 5\sec x$$

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

4

Reduzca :

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

**Resolución:**

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

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

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

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

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

5

Reduzc
a $\text{sen}5453^\circ$



$$\text{sen}53^\circ = \frac{4}{5}$$



Resolución:

$$E = \text{sen}5453^\circ$$

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

$$E = \text{sen}(\cancel{360^\circ \cdot 15} + 53^\circ)$$

$$E = \text{sen}53^\circ = \frac{4}{5}$$

$$\therefore E = 0,8$$

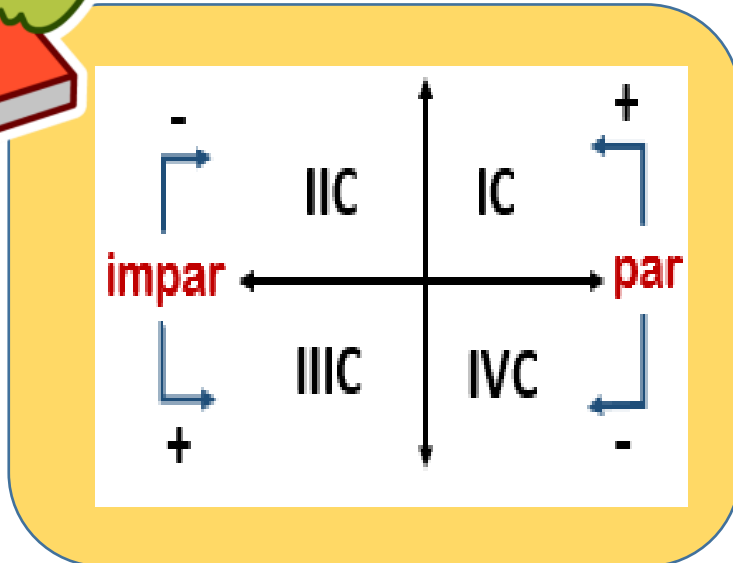


6

Reduzca:

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

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



Resolución:

$$A = \text{sen}(\underbrace{38\pi}_{\text{par}} - x) \quad \text{IVC}$$

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

$$B = \cot(\underbrace{51\pi}_{\text{impar}} + x) \quad \text{IIIC}$$

$$\therefore B = \cot x$$



Reduzca:

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

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



$$\frac{3\pi}{2} \text{ rad} = 270^\circ$$
$$\frac{\pi}{2} \text{ rad} = 90^\circ$$

Resolución:

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

$$\begin{array}{r|l} 43 & 4 \\ (3) & 10 \end{array}$$

$$\sec\left(\underbrace{\frac{3\pi}{2} - x}_{\text{III C}}\right)$$

$$\therefore -$$

CSCX

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

$$\begin{array}{r|l} 73 & 4 \\ (1) & 18 \end{array}$$

$$\sen\left(\underbrace{\frac{1\pi}{2} + x}_{\text{I C}}\right)$$

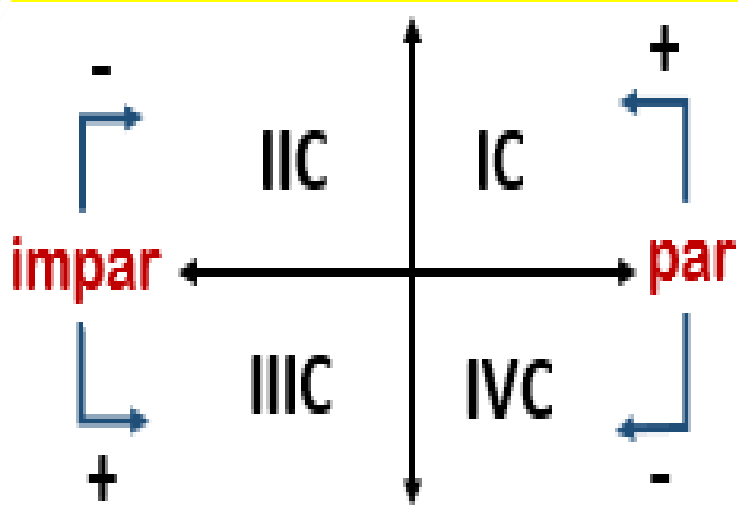
$$\therefore$$

COSX

8

Reduzca:

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



Resolución:

$$E = 8 \overset{\text{IIC}}{\tan(55\pi - x)} \cdot 3 \overset{\text{IC}}{\cot(46\pi + x)}$$

Impar Par

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

$$E = - 24 \underbrace{\tan x \cdot \cot x}_1$$

$$E = - 24$$

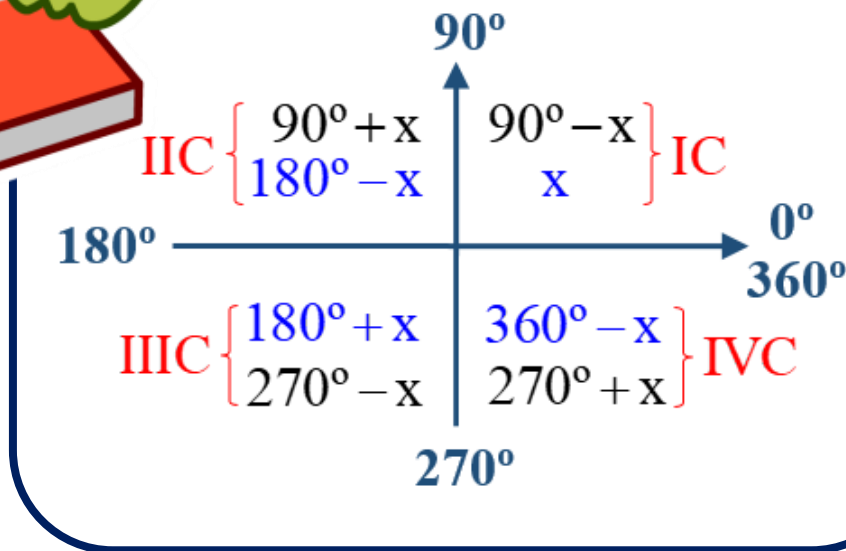
$$\therefore E = - 24$$



9

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

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



Resolución:

$$x = 270^\circ - y$$

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

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

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

$$\therefore F = -2$$

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: $A = 275 \sec\left(\frac{5\pi}{2}\right)$ $B = 235 \csc\left(\frac{13\pi}{6}\right)$

Resolución:

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

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

$$A = 475 \sin(90^\circ)$$

$$A = 475$$

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

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

$$B = 235 \csc(30^\circ)$$

$$B = 235(2)$$

$$B = 470$$

$$C = 187 \sec^2 315^\circ$$

$$C = 187 \sec^2(360^\circ - 45^\circ)$$

$$C = 187 \sec^2(45^\circ)$$

$$C = 187(2)$$

$$C = 374$$

∴ La mejor opción es el instituto Euroidiomas.