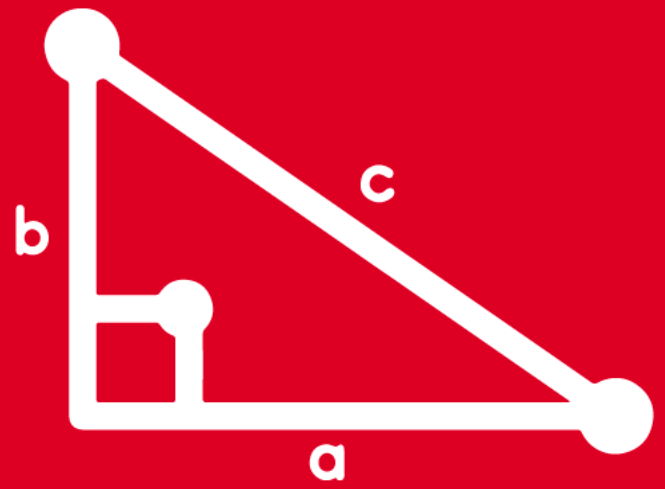
TRIGONOMETRY

3rd
SECONDARY



REVIEW

SACO OLIVEROS

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:

$$M = \sec(-60°) \cdot \tan(-53°)$$

$$M = \sec 60° \cdot (-\tan 53°)$$

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

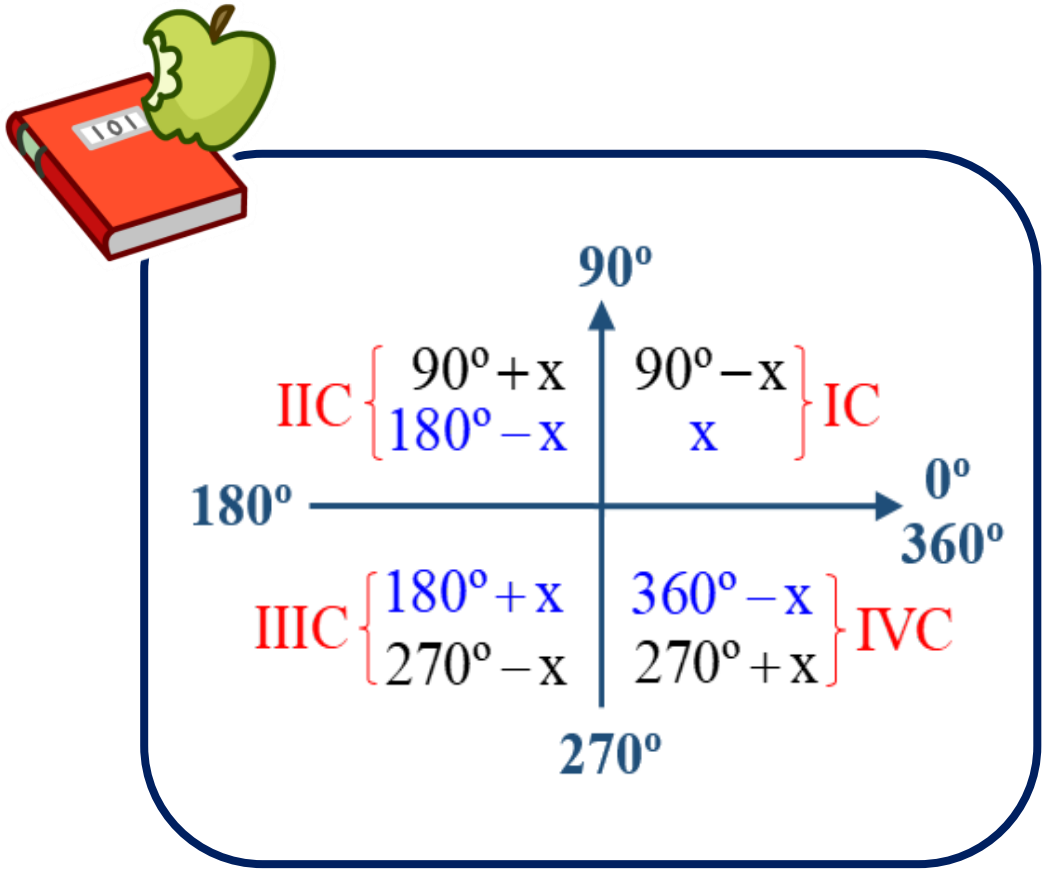
$$M = -\frac{8}{3}$$

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

3

Simplifique:

$$P = 7\sec(360°-x) - 2\csc(90°-x)$$



Resolución:

$$P = 7\sec(\underbrace{360°-x}_{\text{IVC}}) - 2\csc(\underbrace{90°-x}_{\text{IC}})$$

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

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

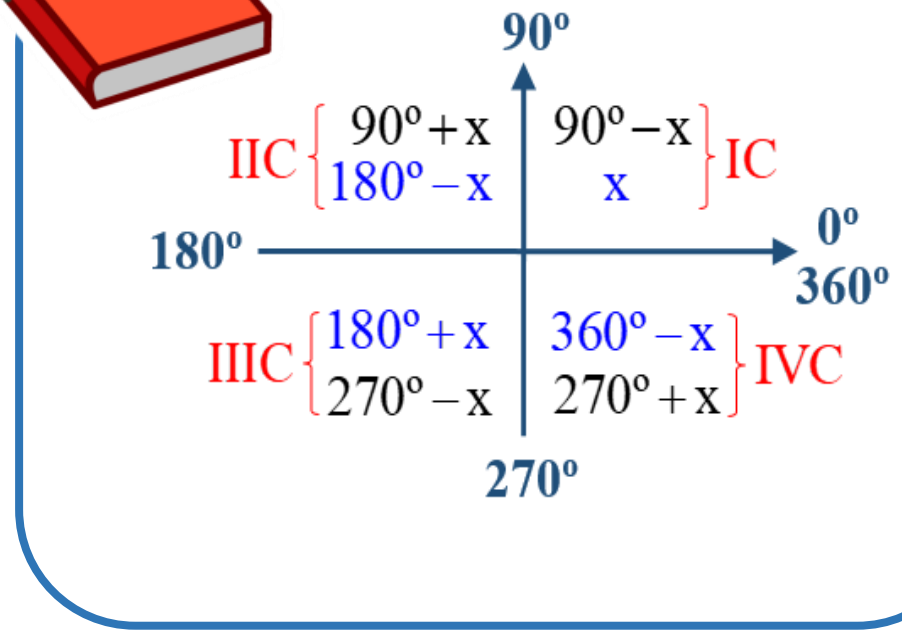
$$P = 5\sec x$$

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

4

Reduzca :

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



Resolución:

IIIC IVC

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

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

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

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

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

5

Calcule

$$\text{sen}5453°$$

$$\text{sen}53° = \frac{4}{5}$$

Resolución:

$$E = \text{sen}5453°$$

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

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

$$E = \text{sen}53° = \frac{4}{5}$$

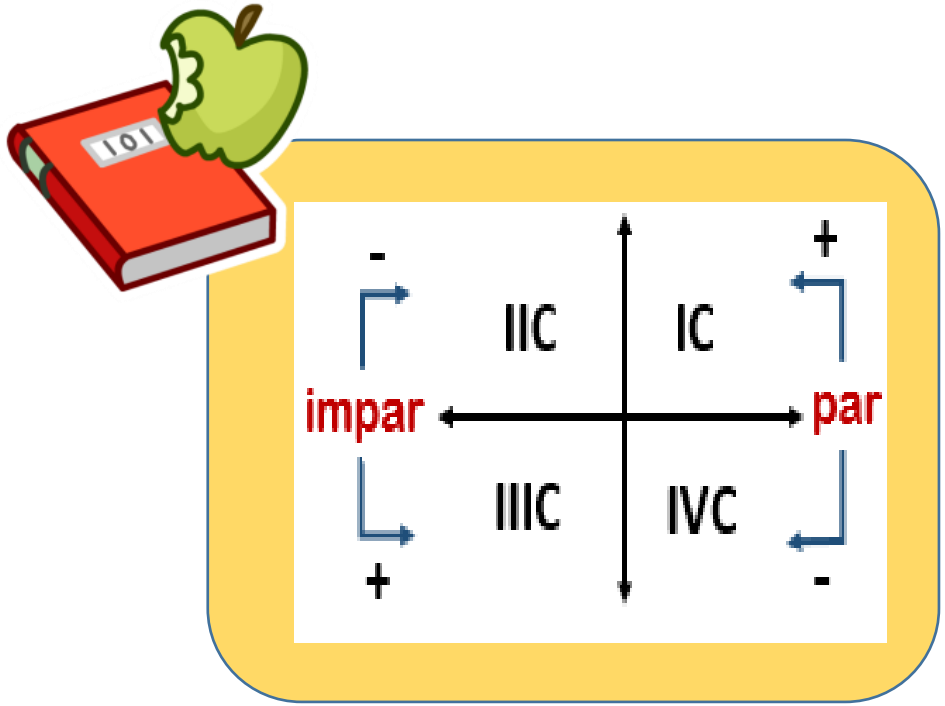
$$\therefore E = 0{,}8$$

6

Reduzca:

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

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



Resolución:

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

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

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

$$\therefore B = \cot x$$

7

Reduzca:

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

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

$\frac{\pi}{2} = 90°$

$\frac{3\pi}{2} = 270°$

Resolución:

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

43	4
(3)	10

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

$\sec(270° - x)$

$\therefore -\csc x$

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

73	4
(1)	18

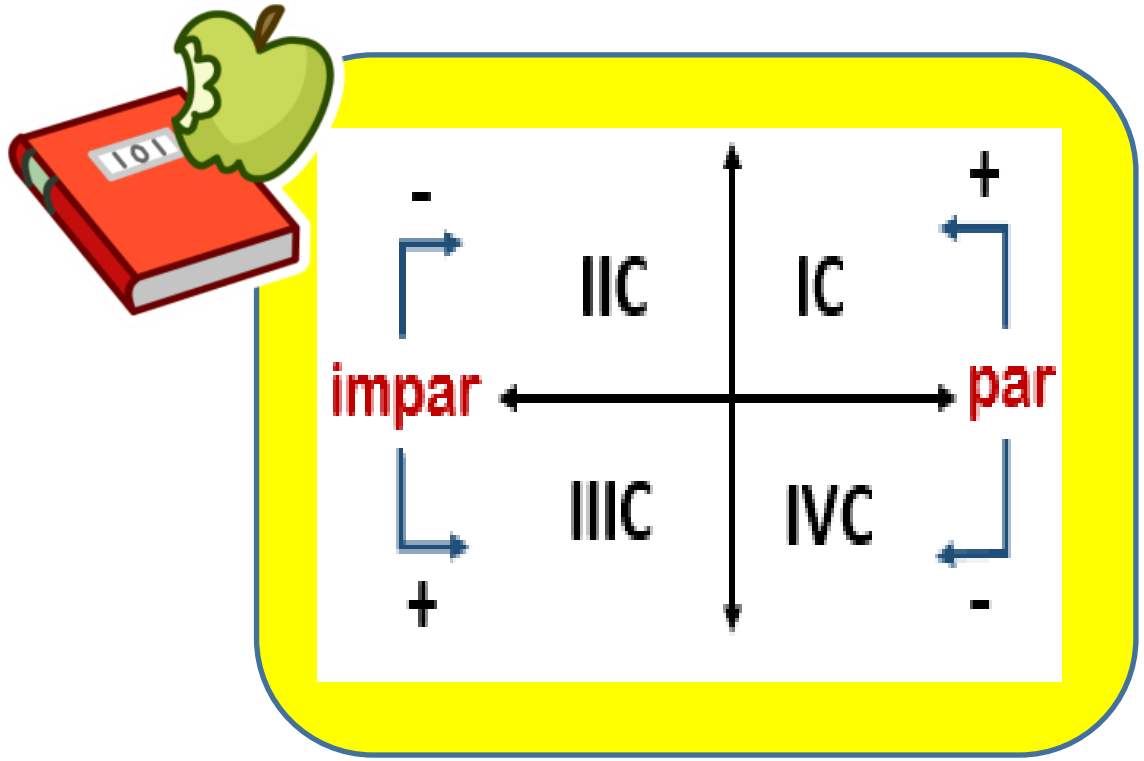
$\operatorname{sen}\left(\frac{1\pi}{2} + x\right)$

$\operatorname{sen}(90° + x)$

$\therefore \cos x$

8 Reduzca:

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



Resolución:

$$E = 8\tan(\underbrace{55\pi}_{\text{Impar}} - x).\ 3\cot(\underbrace{46\pi}_{\text{par}} + x)$$

$$E = -\,8\tan(x).3\cot(x)$$

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

$$E = -\,24$$

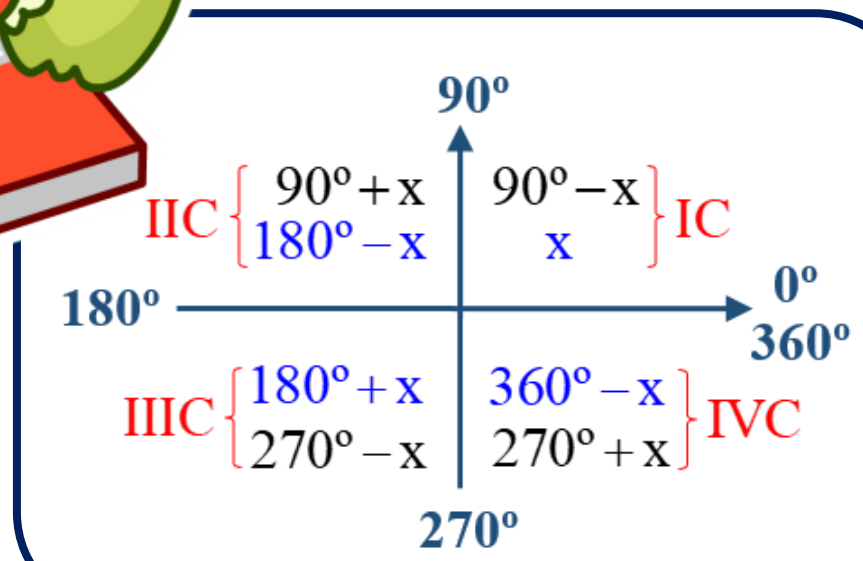
$$\therefore E = -24$$

9

Simplifique:

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

Reduzca: $F = \frac{secx}{cscy} + \frac{senx}{cosy}$



Resolución:

$$x = 270° - y$$

$$F = \frac{\overbrace{sec(270°-y)}^{IIIC}}{cscy} + \frac{\overbrace{sen(270°-y)}^{IIIC}}{cosy}$$

$$F = \frac{-cscy}{cscy} + \frac{-cosy}{cosy}$$

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

$$\therefore F = -2$$

10

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

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** = $235\csc\left(\frac{13\pi}{6}\right)$ **C** = $187\sec^2 315°$

Resolución:

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

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

$$A = 475sen(90°)$$

$$A = 475$$

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

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

$$B = 235.\csc(30°)$$

$$B = 235(2)$$

$$B = 470$$

$$C = 187sec^2 315°$$

$$C = 187sec^2(360° - 45°)$$

$$C = 187sec^2(45°)$$

$$C = 187(2)$$

$$C = 374$$

∴ La mejor opción es el instituto Euroidiomas