



TRIGONOMETRY

2nd
SECONDARY

REVIEW





HELICOPRACTICE 1

Si $\alpha + \beta = 90^\circ$, Además $\tan \alpha = \frac{3}{4}$

Efectúe:

$$A = 4 \cot \beta + 7$$

Recordar:



Si $\alpha + \beta = 90^\circ$



se cumple que

$$\text{RT}(\alpha) = \text{CO-RT}(\theta)$$

Resolución:

$$\tan \alpha = \cot \beta = \frac{3}{4}$$

Reemplazando

$$A = 4 \cot \beta + 7$$

$$A = 4 \left(\frac{3}{4} \right) + 7$$

$$A = 3 + 7$$

$$\therefore A = 10$$



HELICOPRACTICE 2

Calcule $\tan 5x$; Si:

$$\operatorname{sen}(5x + 32^\circ) = \cos(x + 4^\circ)$$

Recordar:



Si $RT(\alpha) = CO-RT(\theta)$



se cumple que

$$\alpha + \beta = 90^\circ$$

Resolución:

$$\operatorname{sen}(5x + 32^\circ) = \cos(x + 4^\circ)$$

$$5x + 32^\circ + x + 4^\circ = 90^\circ$$

$$6x + 36^\circ = 90^\circ$$

$$6x = 54^\circ$$

$$x = 9^\circ$$

Piden:

$$\tan 5x = \tan 45^\circ$$

$$\therefore \tan 5x = 1$$



HELICOPRACTICE 3

Calcule

$$P = \frac{7 \sec 27^\circ + 3 \csc 63^\circ}{3 \csc 63^\circ - \sec 27^\circ}$$

Recordar:



Si $\alpha + \beta = 90^\circ$



se cumple que

$$\text{RT}(\alpha) = \text{CO-RT}(\theta)$$

Resolución:

$$27^\circ + 63^\circ = 90^\circ$$

Reemplazando:



$$\sec 27^\circ = \csc 63^\circ$$

$$P = \frac{7 \sec 27^\circ + 3 \csc 63^\circ}{3 \csc 63^\circ - \sec 27^\circ}$$

$$P = \frac{7 \sec 27^\circ + 3 \sec 27^\circ}{3 \sec 27^\circ - \sec 27^\circ}$$

$$P = \frac{10 \sec 27^\circ}{2 \sec 27^\circ}$$

$$\therefore P = 5$$



HELICOPRACTICE 4

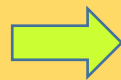
Reduzca:

$$M = (\sin 74^\circ + \cos 16^\circ) \csc 74^\circ$$

Recordar:

R.T. Complementaria

$$\text{Si } \alpha + \beta = 90^\circ$$



$$\sin \alpha = \cos \beta$$

R.T. Recíproca

$$\sin \alpha \cdot \csc \alpha = 1$$



Resolución:

$$74^\circ + 16^\circ = 90^\circ$$



$$\sin 74^\circ = \cos 16^\circ$$

Reemplazando:

$$M = (\sin 74^\circ + \cos 16^\circ) \csc 74^\circ$$

$$M = (\sin 74^\circ + \sin 74^\circ) \csc 74^\circ$$

$$M = (2 \sin 74^\circ) \csc 74^\circ$$

1

$$\therefore M = 2$$



HELICOPRACTICE 5

Halle el valor de β ; si:

$$\tan(7\beta - 58^\circ) = \frac{1}{\cot(\beta + 8^\circ)}$$

Recordar:

R.T. Recíproca



$$\tan \alpha \cdot \cot \alpha = 1$$

Resolución:

$$\tan(7\beta - 58^\circ) = \frac{1}{\cot(\beta + 8^\circ)}$$

$$\tan(7\beta - 58^\circ) \cdot \cot(\beta + 8^\circ) = 1$$

$$\rightarrow 7\beta - 58^\circ = \beta + 8^\circ$$

$$6\beta = 66^\circ$$

$$\therefore \beta = 11^\circ$$



HELICOPRACTICE 6

Halle el valor de θ ; Si:

$$1 = \frac{\csc(\theta - 12^\circ)}{\sec(7\theta - 58^\circ)}$$

Recordar:



R.T. Complementaria

Si $\sec \alpha = \csc \beta$
se cumple que

$$\alpha + \beta = 90^\circ$$

Resolución:

$$1 = \frac{\csc(\theta - 12^\circ)}{\sec(7\theta - 58^\circ)}$$

$$\sec(7\theta - 58^\circ) = \csc(\theta - 12^\circ)$$

$$\rightarrow (7\theta - 58^\circ) + (\theta - 12^\circ) = 90^\circ$$

$$8\theta - 70^\circ = 90^\circ$$

$$8\theta = 160^\circ$$

$$\therefore \theta = 20^\circ$$

HELICOPRACTICE 7



Escriba verdadero (V) o falso (F) según corresponda:

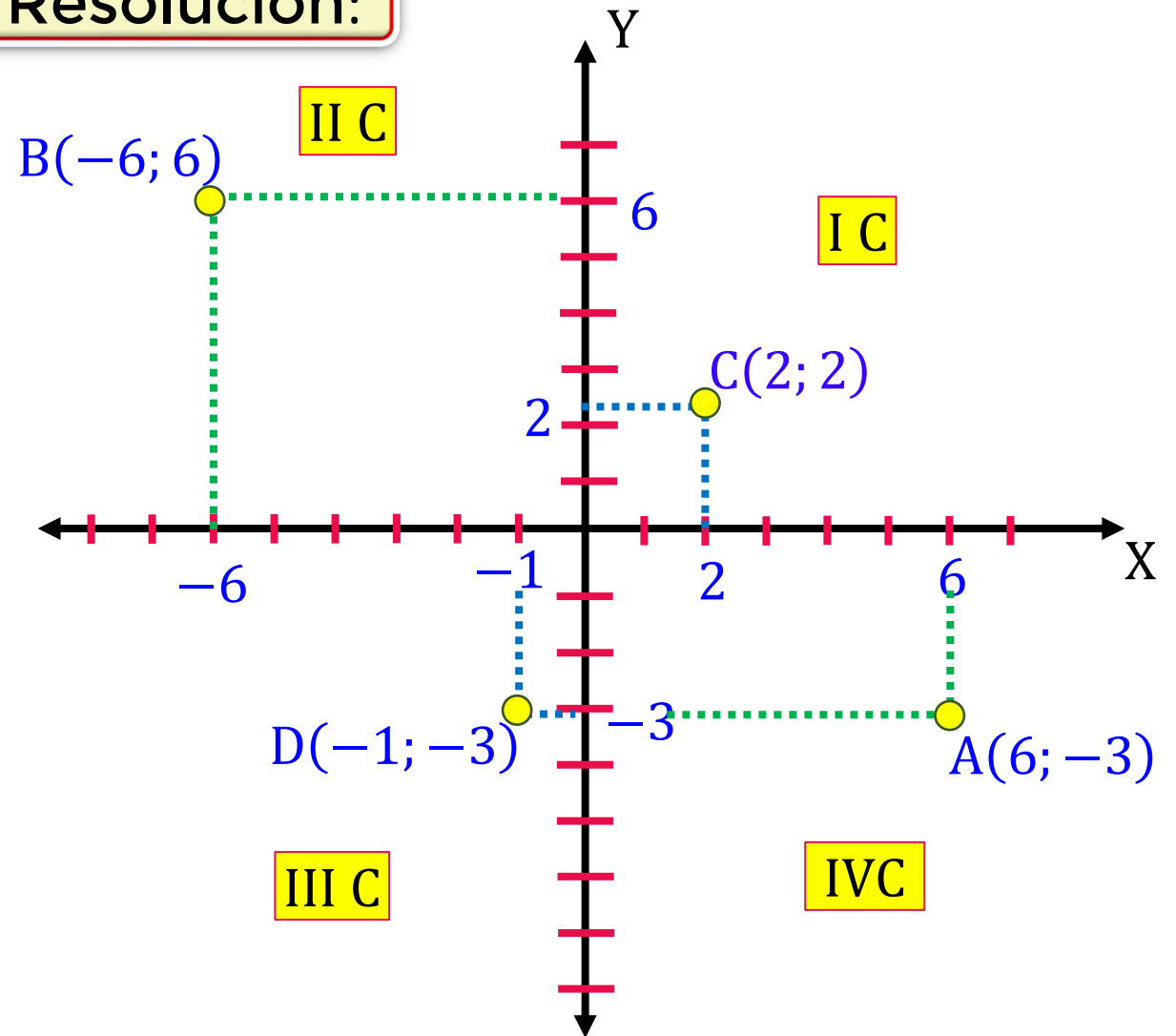
a) El punto $A(6;-3) \in \text{IIC}$ (F)

b) El punto $B(-6;6) \in \text{IC}$ (F)

c) El punto $C(2;2) \in \text{IVC}$ (F)

d) El punto $D(-1;-3) \in \text{IIIC}$ (V)

Resolución:

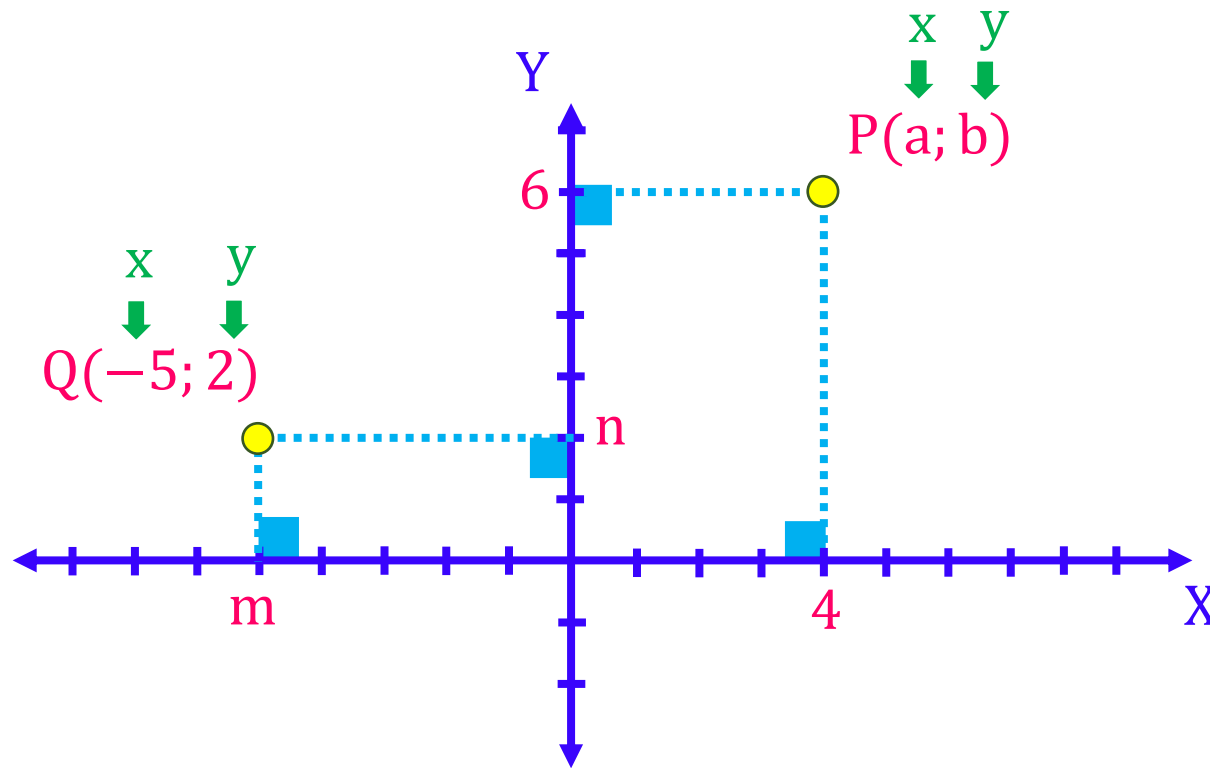


HELICOPRACTICE 8



Del grafico, calcule:

$$P = \frac{a + b + m}{n}$$



Resolución:

Del gráfico:

$$a = 4 \quad m = -5$$

$$b = 6 \quad n = 2$$

Piden:

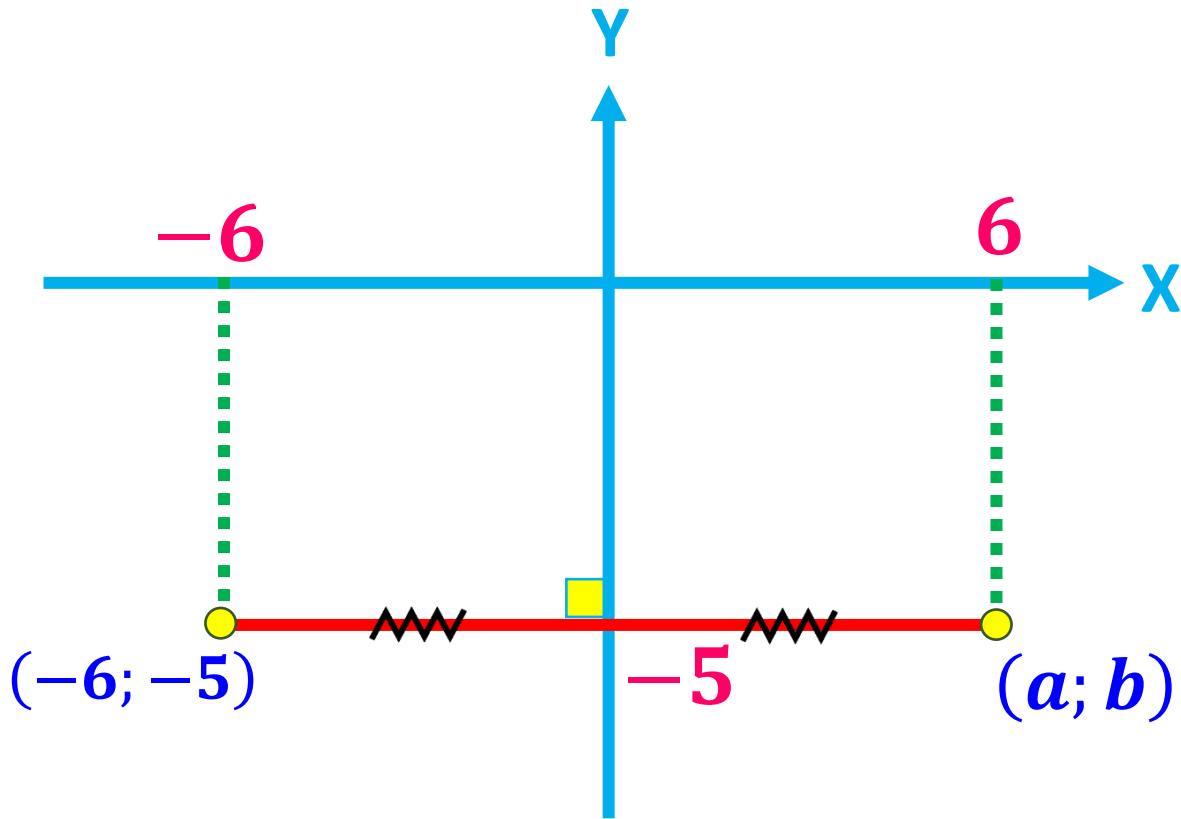
$$P = \frac{a + b + m}{n}$$

$$P = \frac{4 + 6 + (-5)}{2}$$

$$\therefore P = \frac{5}{2}$$



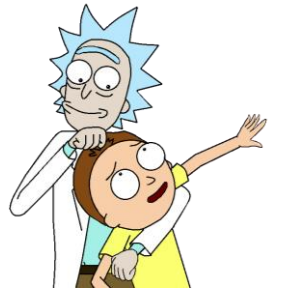
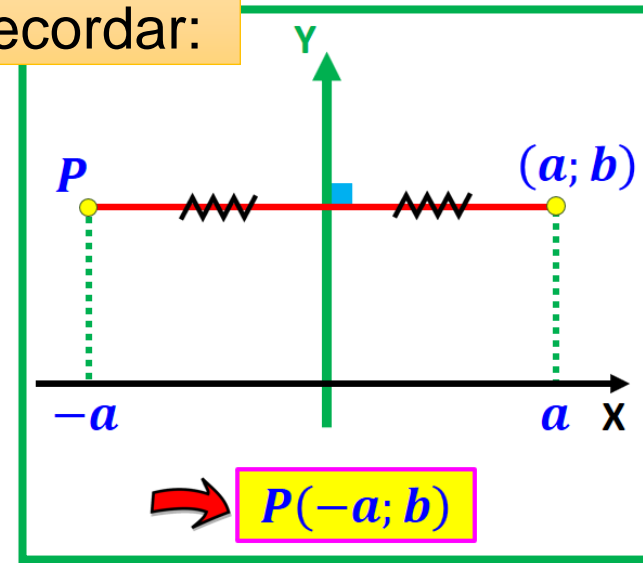
Del grafico, calcule: $a \cdot b$



Resolución:

Simetría respecto al eje Y:

Recordar:



$$a = 6$$

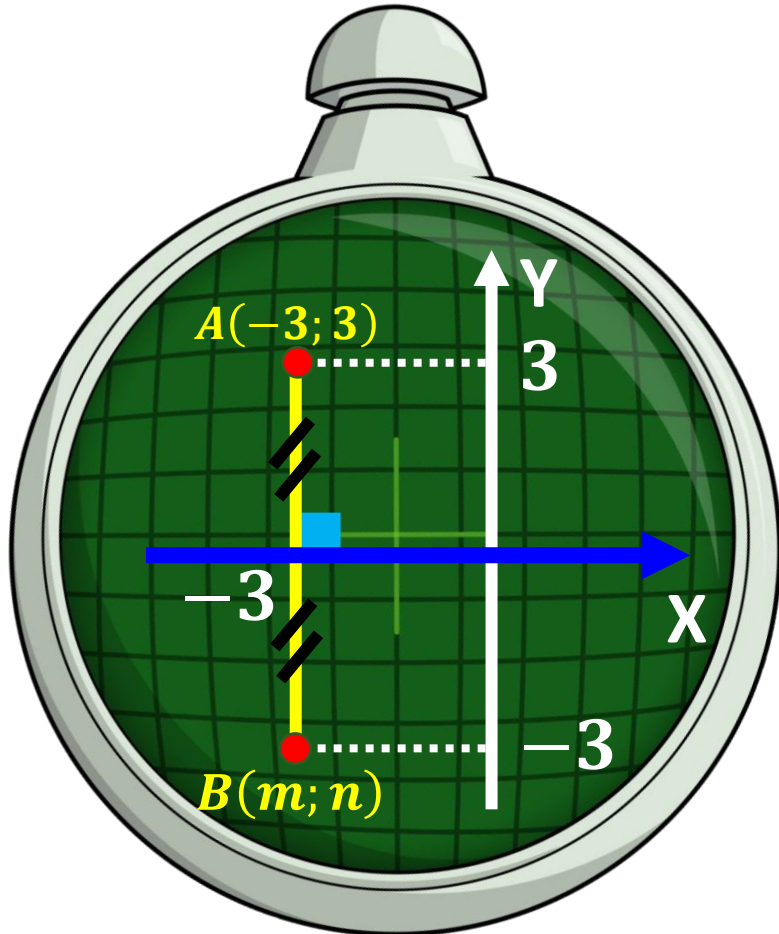
$$b = -5$$

Piden: $a \cdot b = (6)(-5)$

$$\therefore a \cdot b = -30$$



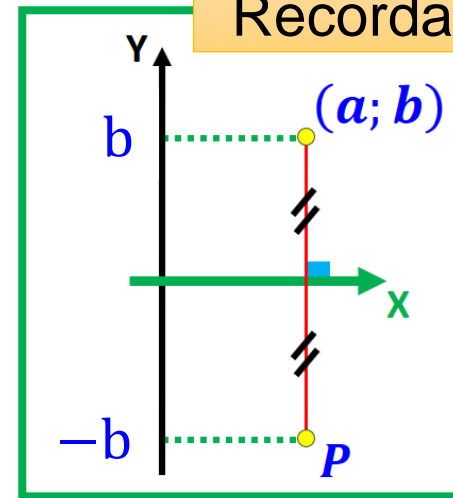
Nuestro radar presenta fallas y solo nos muestra las coordenadas de los puntos A y B como se muestra en la figura. Se nos pide calcular: $\frac{m}{n}$



Resolución:

Simetría respecto al eje X:

Recordar:



$$m = -3$$

$$n = -3$$

$$P(a; -b)$$

Piden: $\frac{m}{n} = \frac{-3}{-3}$

$$\therefore \frac{m}{n} = 1$$