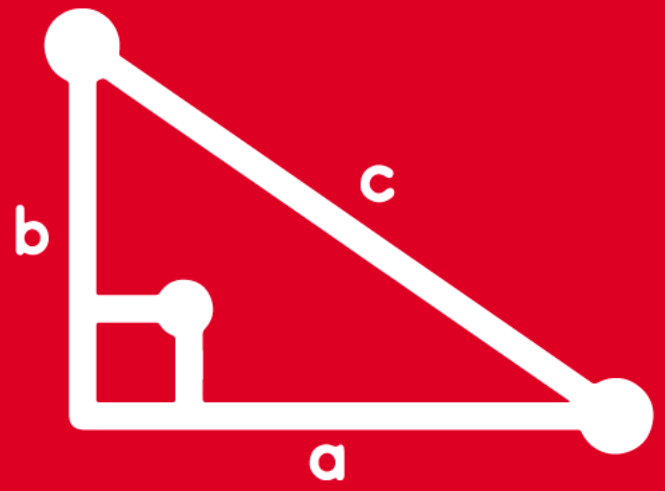
TRIGONOMETRY

TOMO 4

2nd
SECONDARY



REVIEW

SACO OLIVEROS

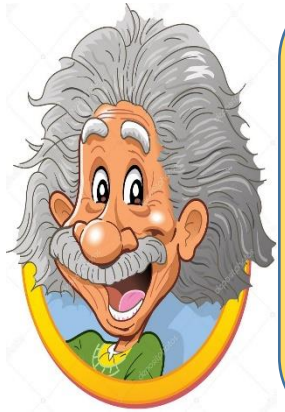
HELICOPRACTICE 1

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

Efectúe:

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

Recordar:



Si $\alpha + \beta = 90°$

se cumple que

RT (α) = CO-RT (θ)

Resolución:

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

Reemplazamos:

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

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

$$A = 3 + 7$$

$$\therefore A = 10$$

HELICOPRACTICE 2

Calcule $\tan 5x$; Si:

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

Recordar:

Si RT (α) = CO-RT (θ)

se cumple que

$\alpha + \beta = 90°$

Resolución:

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

$$5x + 32° + x + 4° = 90°$$

$$6x + 36° = 90°$$

$$6x = 54°$$

$$x = 9°$$

Calculamos:

$$\tan 5x = \tan 45°$$

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

HELICOPRACTICE 3

Calcule

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

Recordar:

Si $\alpha + \beta = 90°$

se cumple que

RT (α) = CO-RT (θ)

Resolución:

$$27° + 63° = 90°$$

Reemplazando:

$$\sec 27° = \csc 63°$$

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

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

$$P = \frac{10\cancel{\sec 27°}}{2\cancel{\sec 27°}}$$

$$\therefore P = 5$$

HELICOPRACTICE 4

Reduzca:

$$M = (\operatorname{sen} 74° + \cos 16°) \csc 74°$$

Recordar:

R.T. Complementaria

Si $\alpha + \beta = 90°$

$\operatorname{sen} \alpha = \cos \beta$

R.T. Recíproca

$\operatorname{sen} \alpha \cdot \csc \alpha = 1$

Resolución:

$$74° + 16° = 90°$$

$$\operatorname{sen} 74° = \cos 16°$$

Reemplazando:

$$M = (\operatorname{sen} 74° + \cos 16°) \csc 74°$$

$$M = (\operatorname{sen} 74° + \operatorname{sen} 74°) \csc 74°$$

$$M = (2 \operatorname{sen} 74°) \csc 74°$$

$$1$$

$$\therefore M = 2$$

HELICOPRACTICE 5

Halle el valor de β; si:

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

Recordar:

R.T. Recíproca

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

Resolución:

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

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

$$7\beta - 58° = \beta + 8°$$

$$6\beta = 66°$$

$$\therefore \beta = 11°$$

HELICOPRACTICE 6

Halle el valor de θ; Si:

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

Recordar:

R.T. Complementaria

Si $\sec\alpha = \csc\beta$

se cumple que

$\alpha + \beta = 90°$

Resolución:

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

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

$$\Rightarrow (7\theta - 58°) + (\theta - 12°) = 90°$$

$$8\theta - 70° = 90°$$

$$8\theta = 160°$$

$$\therefore \theta = 20°$$

HELICOPRACTICE 7

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

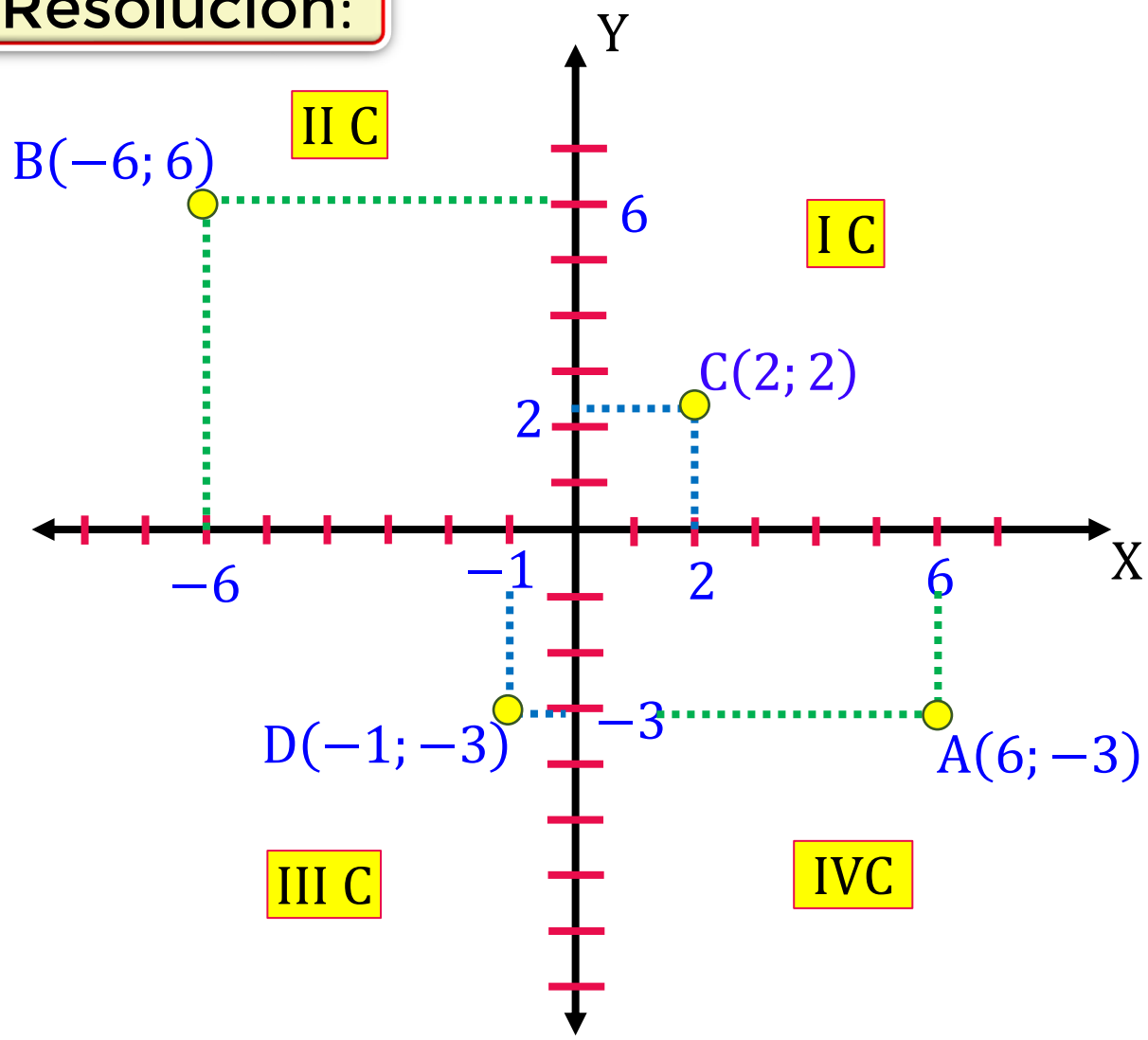
a) El punto A(6;−3) ∈ IIC (F)

b) El punto B(−6;6) ∈ IC (F)

c) El punto C(2;2) ∈ IVC (F)

d) El punto D(−1;−3) ∈ IIIC (V)

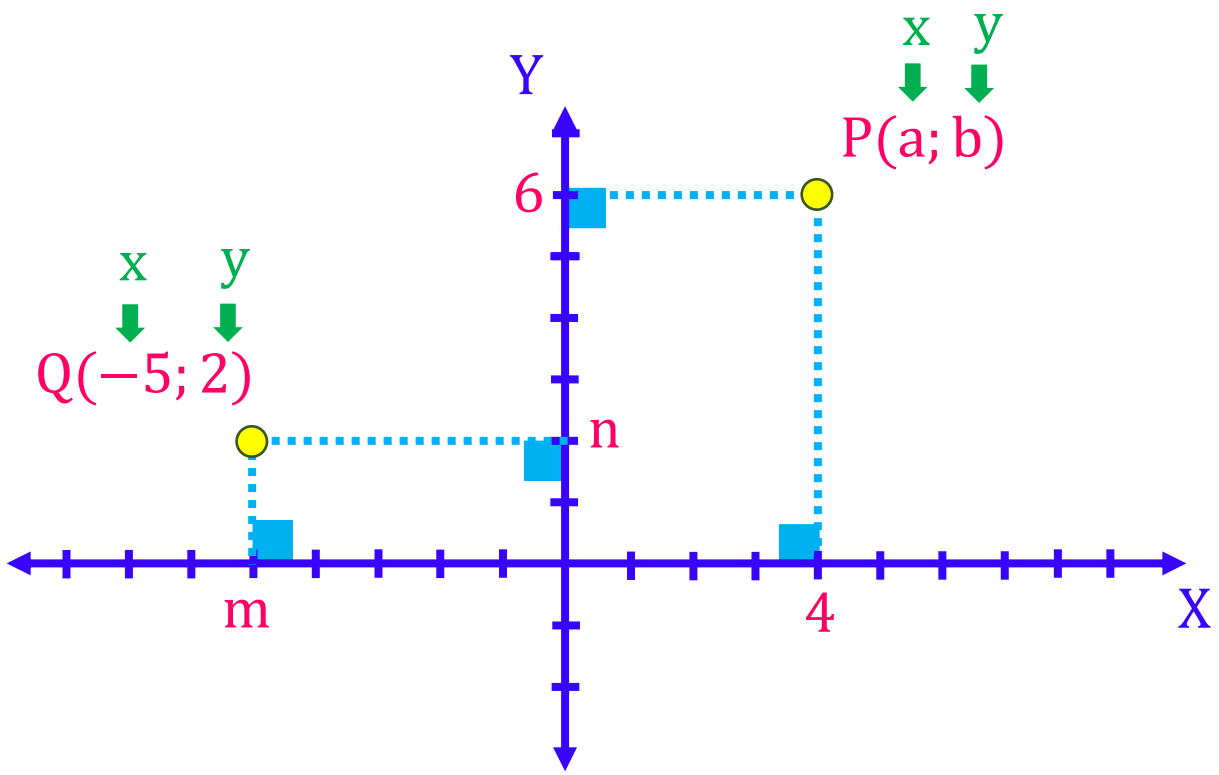
Resolución:



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:

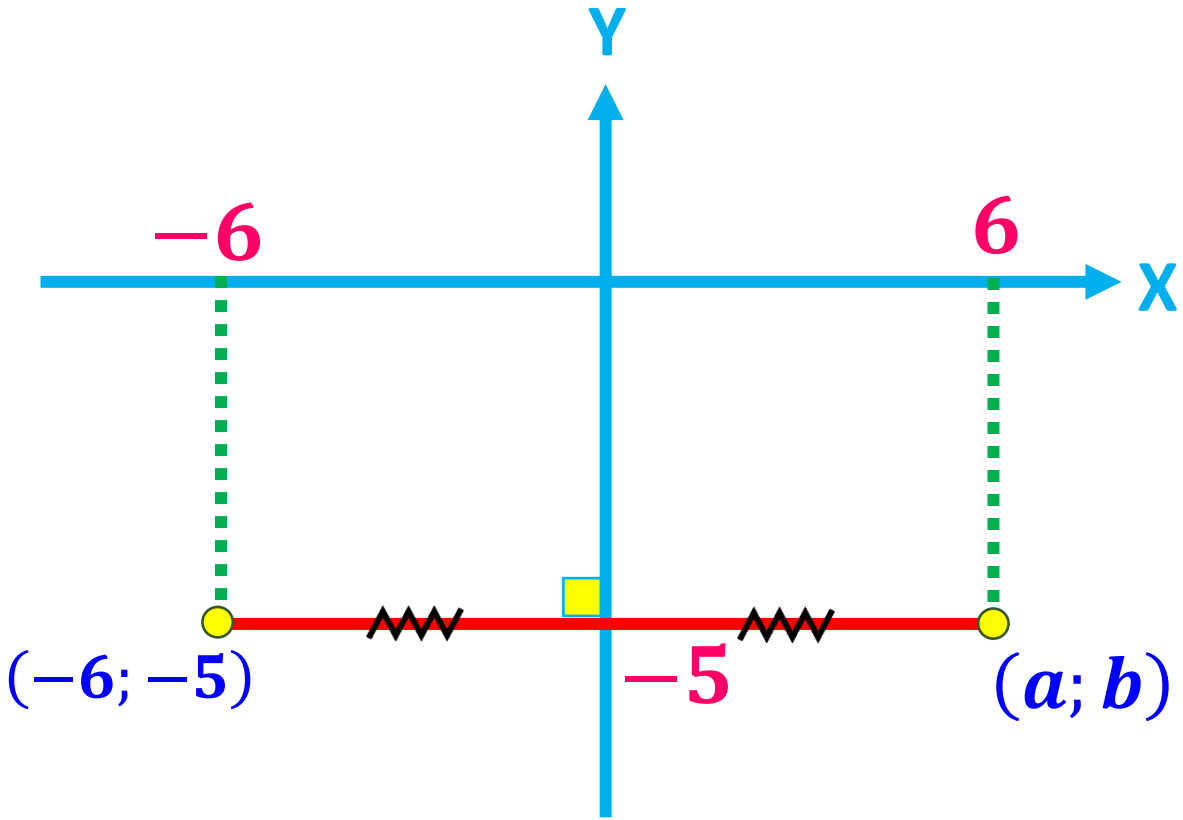
$$P = \frac{a + b + m}{n}$$

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

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

HELICOPRACTICE 9

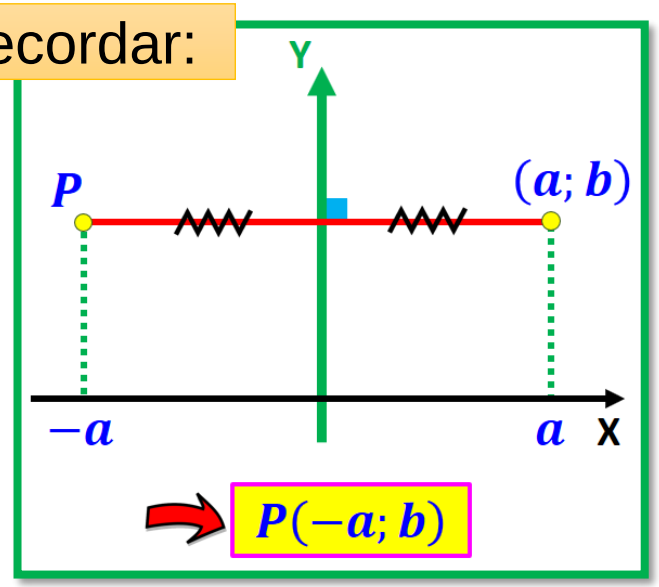
Del grafico, calcule: $a \cdot b$

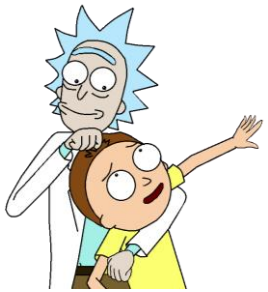


Resolución:

Simetría respecto al eje Y:

Recordar:





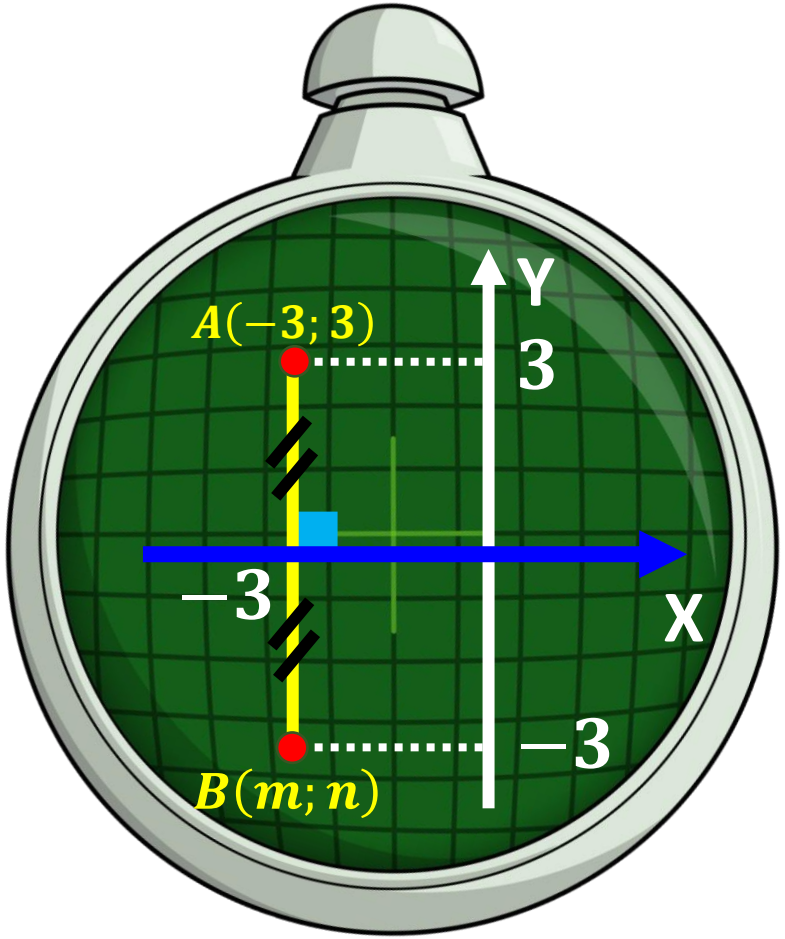
$a = 6$ $\qquad$ $b = -5$

Calculamos: $a.b = (6)(-5)$

$\therefore a.b = -30$

HELICOPRACTICE 10

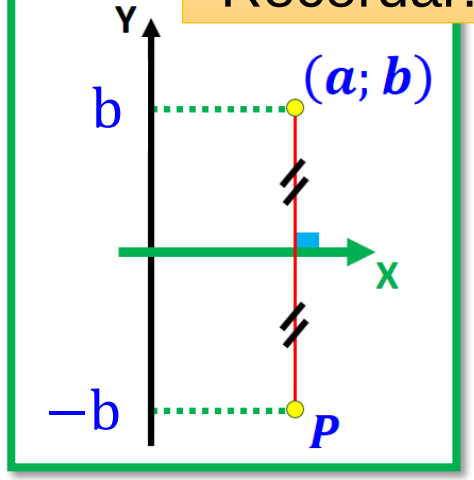
Nuestro radar presenta fallas y solo nos muestra las coordenadas de los puntos A y B como se muestra en la figura. Se nos pide calcular: $\frac{m}{n}$



Resolución:

Simetría respecto al eje X:

Recordar:



$P(a; -b)$

$m = -3$

$n = -3$

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

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