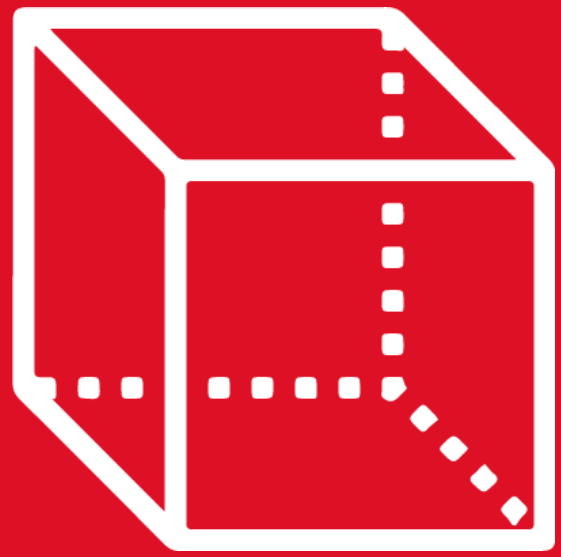
GEOMETRÍA

Capítulo 4

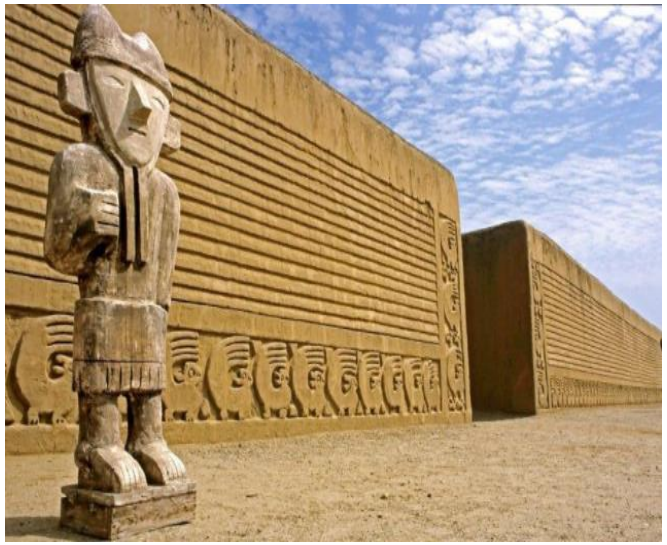


1st
SECONDARY

Ángulos entre dos rectas paralelas y una recta secante

SACO OLIVEROS

MOTIVATING | STRATEGY

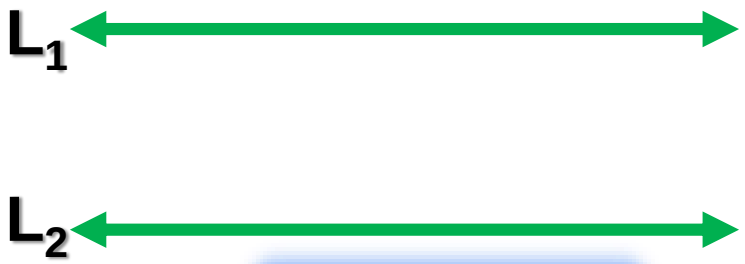


ÁNGULOS ENTRE DOS RECTAS PARALELAS Y UNA RECTA SECANTE

RECTAS PARALELAS:

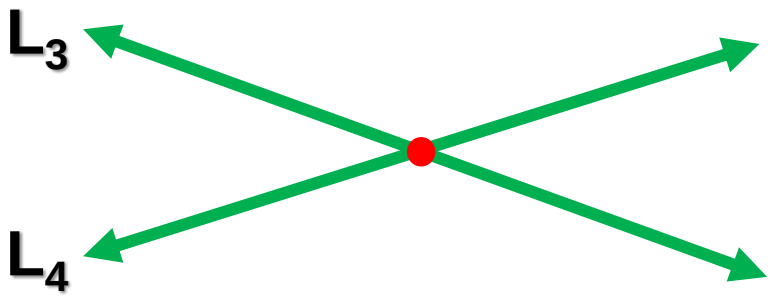
Dos rectas son paralelas si están contenidas en un plano y no tienen ningún punto en común.

Rectas paralelas

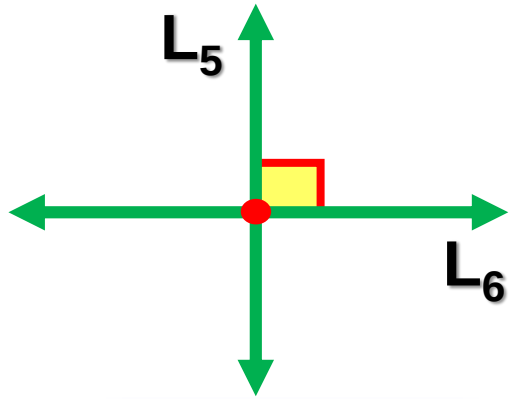


$\overleftrightarrow{L_1} \parallel \overleftrightarrow{L_2}$

Rectas secantes



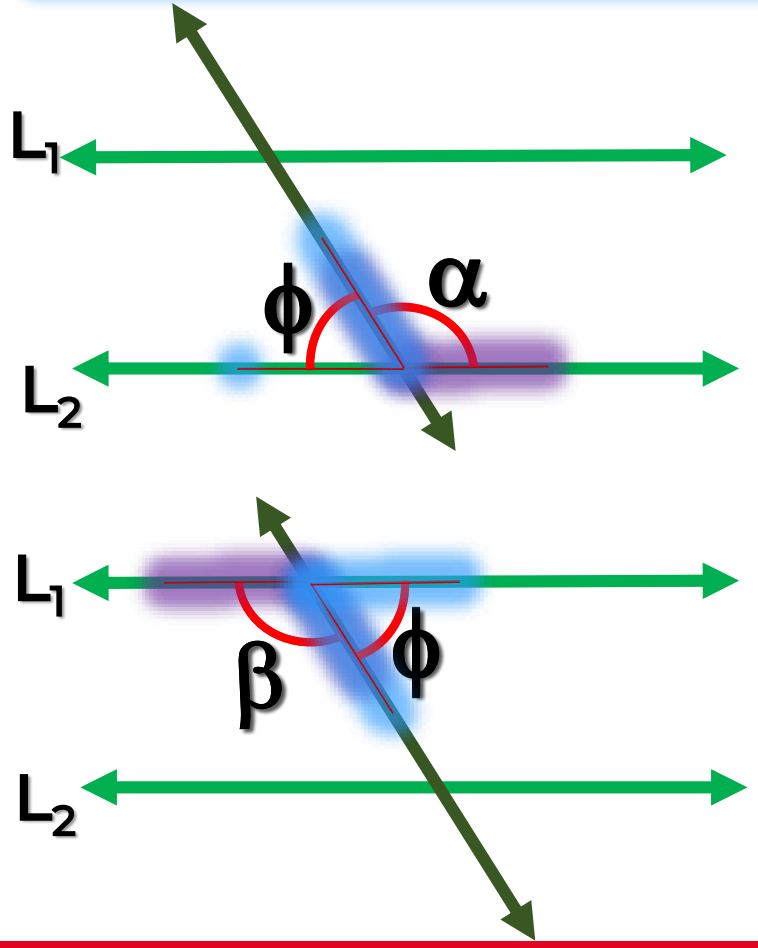
Rectas perpendiculares



$\overleftrightarrow{L_5} \perp \overleftrightarrow{L_6}$

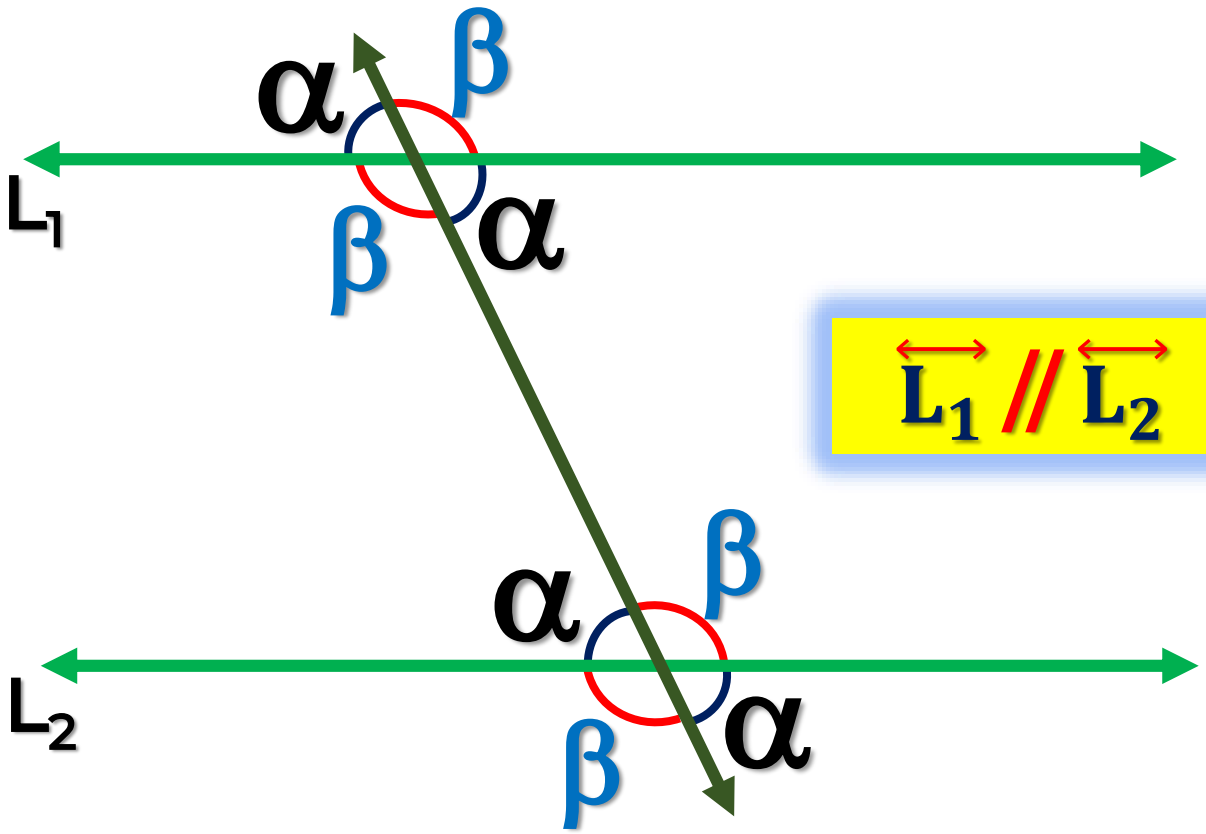
ÁNGULOS FORMADOS POR DOS RECTAS PARALELAS Y UNA RECTA SECANTE

ÁNGULOS CORRESPONDIENTES



$\overleftrightarrow{L_1} \parallel \overleftrightarrow{L_2}$

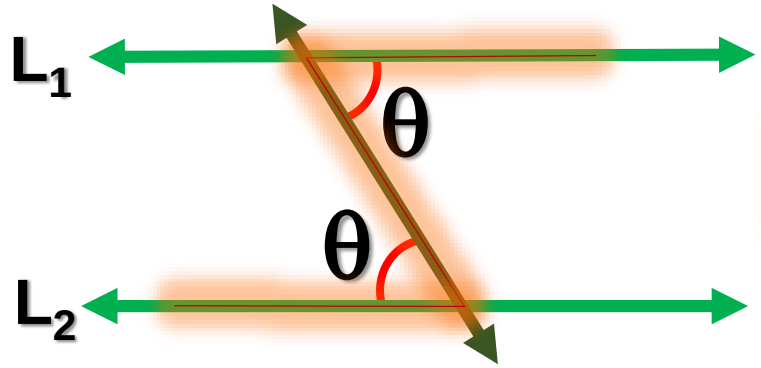
$\overleftrightarrow{L_1} \parallel \overleftrightarrow{L_2}$



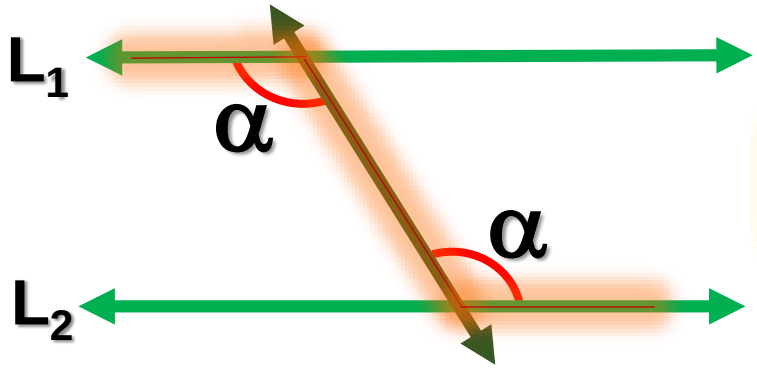
$\overleftrightarrow{L_1} \parallel \overleftrightarrow{L_2}$

ÁNGULOS FORMADOS POR DOS RECTAS PARALELAS Y UNA RECTA SECANTE

ÁNGULOS ALTERNOS INTERNOS

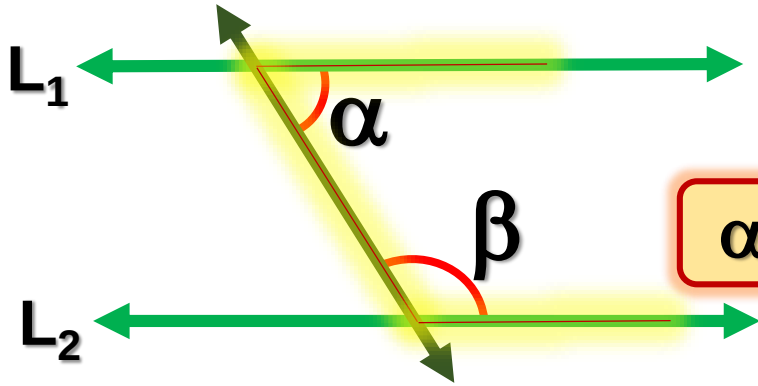


$\overleftrightarrow{L_1} \parallel \overleftrightarrow{L_2}$



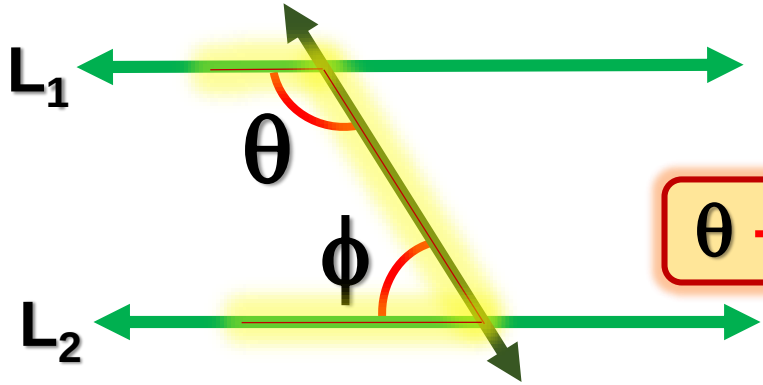
$\overleftrightarrow{L_1} \parallel \overleftrightarrow{L_2}$

ÁNGULOS CONJUGADOS INTERNOS



$\overleftrightarrow{L_1} \parallel \overleftrightarrow{L_2}$

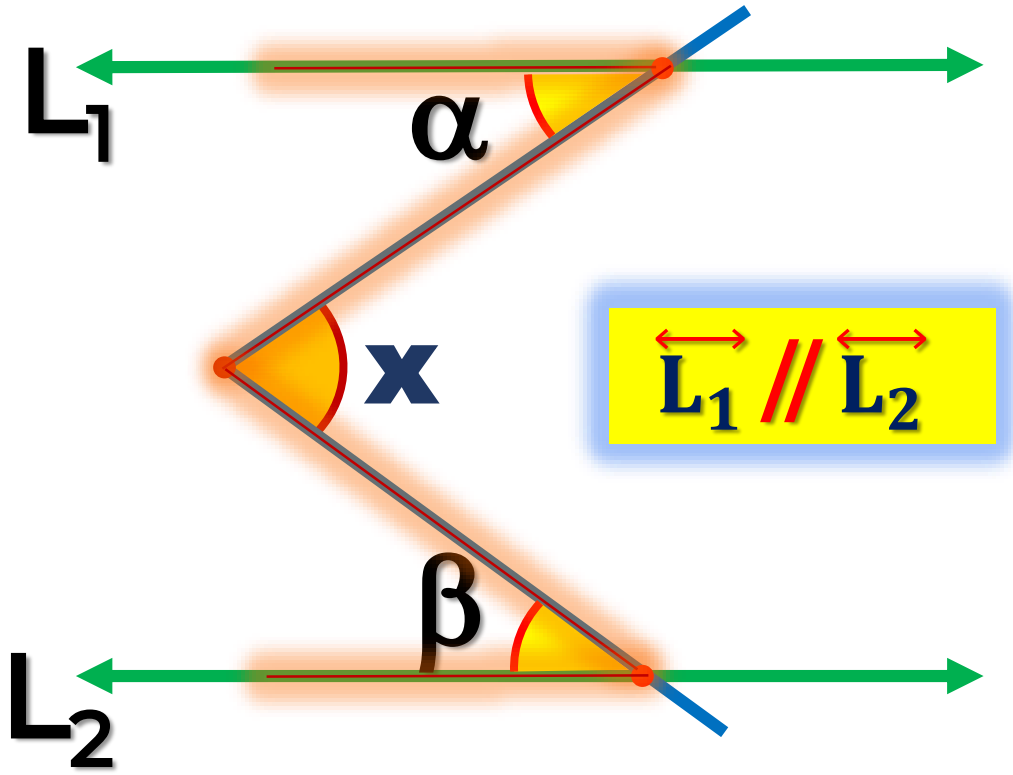
$\alpha + \beta = 180°$



$\overleftrightarrow{L_1} \parallel \overleftrightarrow{L_2}$

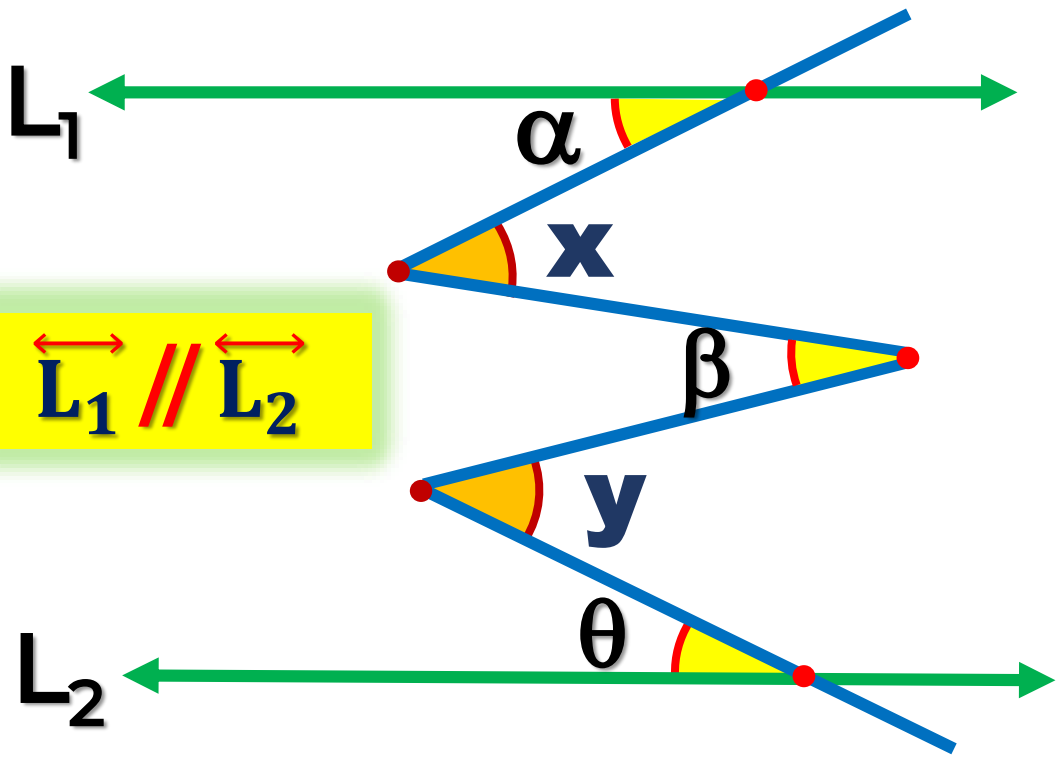
$\theta + \phi = 180°$

TEOREMAS



$\overleftrightarrow{L_1} // \overleftrightarrow{L_2}$

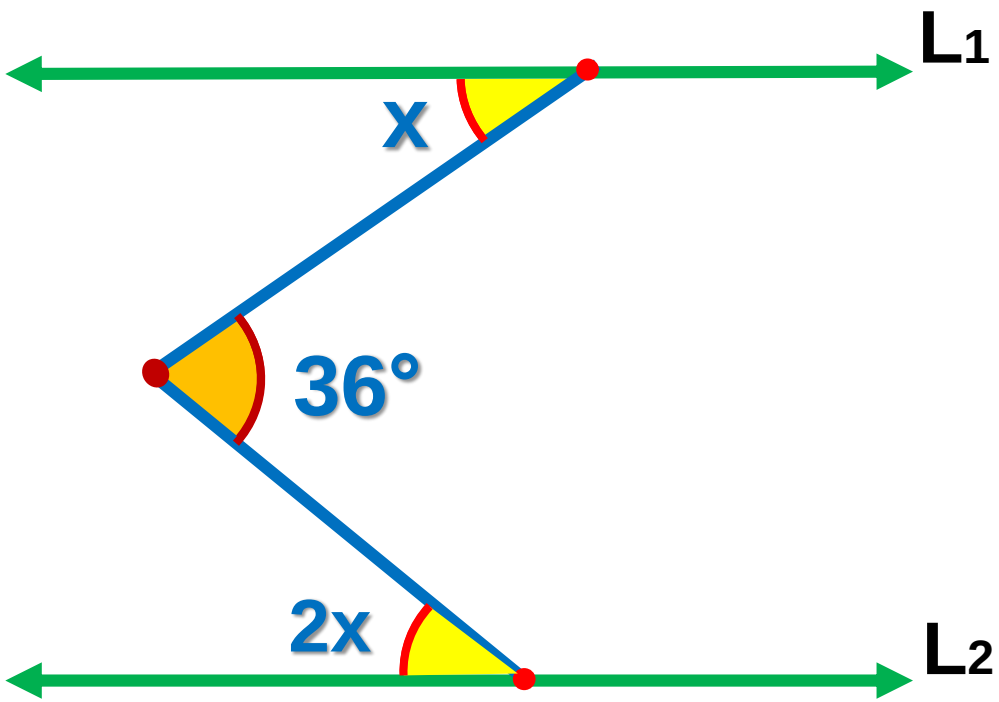
$$x = \alpha + \beta$$



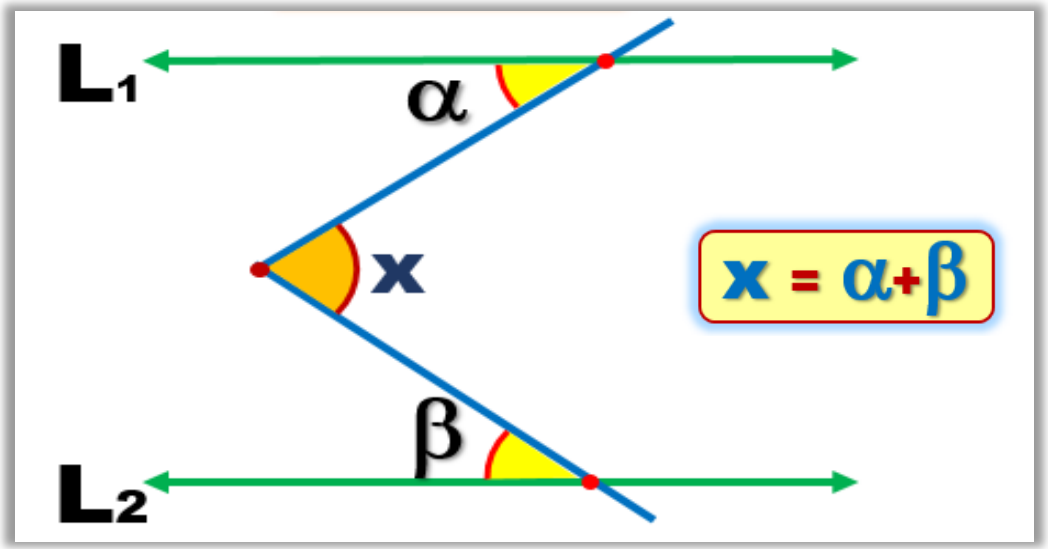
$\overleftrightarrow{L_1} // \overleftrightarrow{L_2}$

$$\alpha + \beta + \theta = x + y$$

1. Si $\overleftrightarrow{L_1}$ // $\overleftrightarrow{L_2}$, halle el valor de x.



Resolución

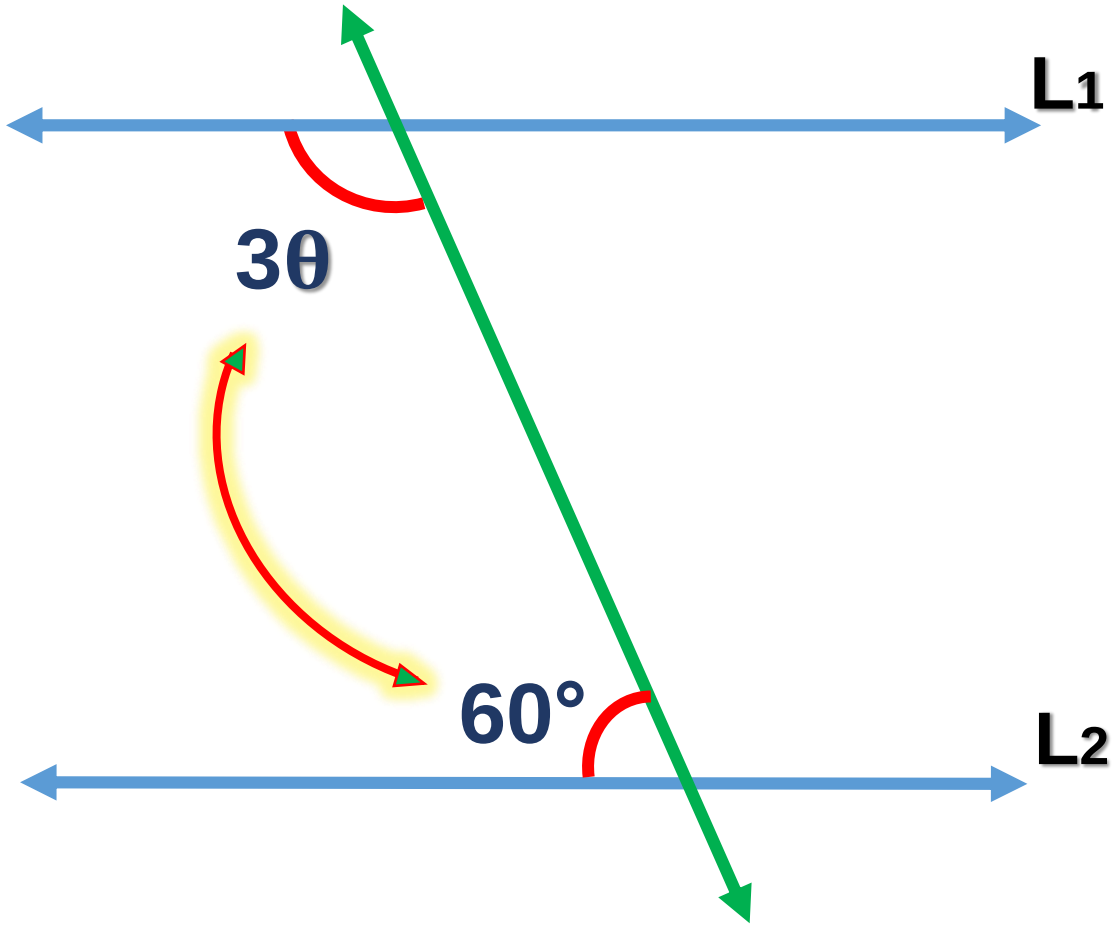


$$36° = x + 2x$$

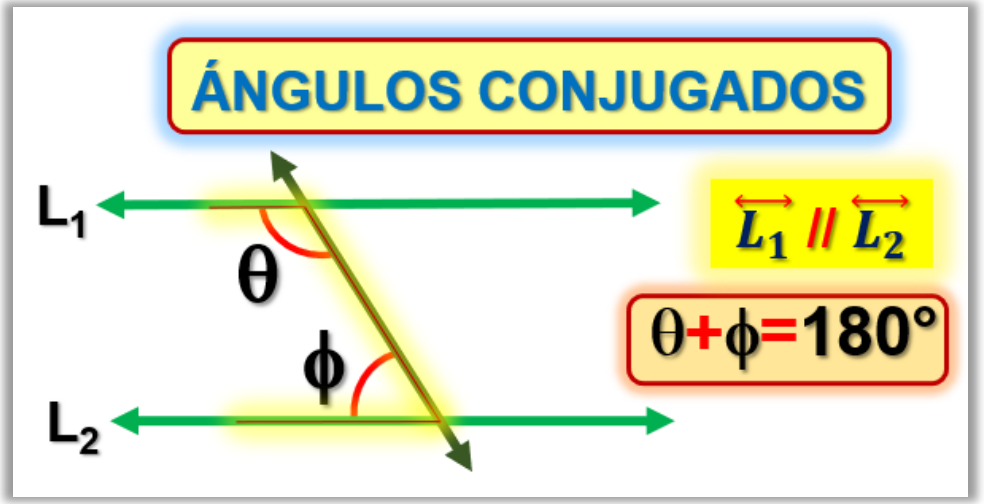
$$36° = 3x$$

$$12° = x$$

2. Si $\overleftrightarrow{L_1} \parallel \overleftrightarrow{L_2}$, halle el valor de θ.



Resolución

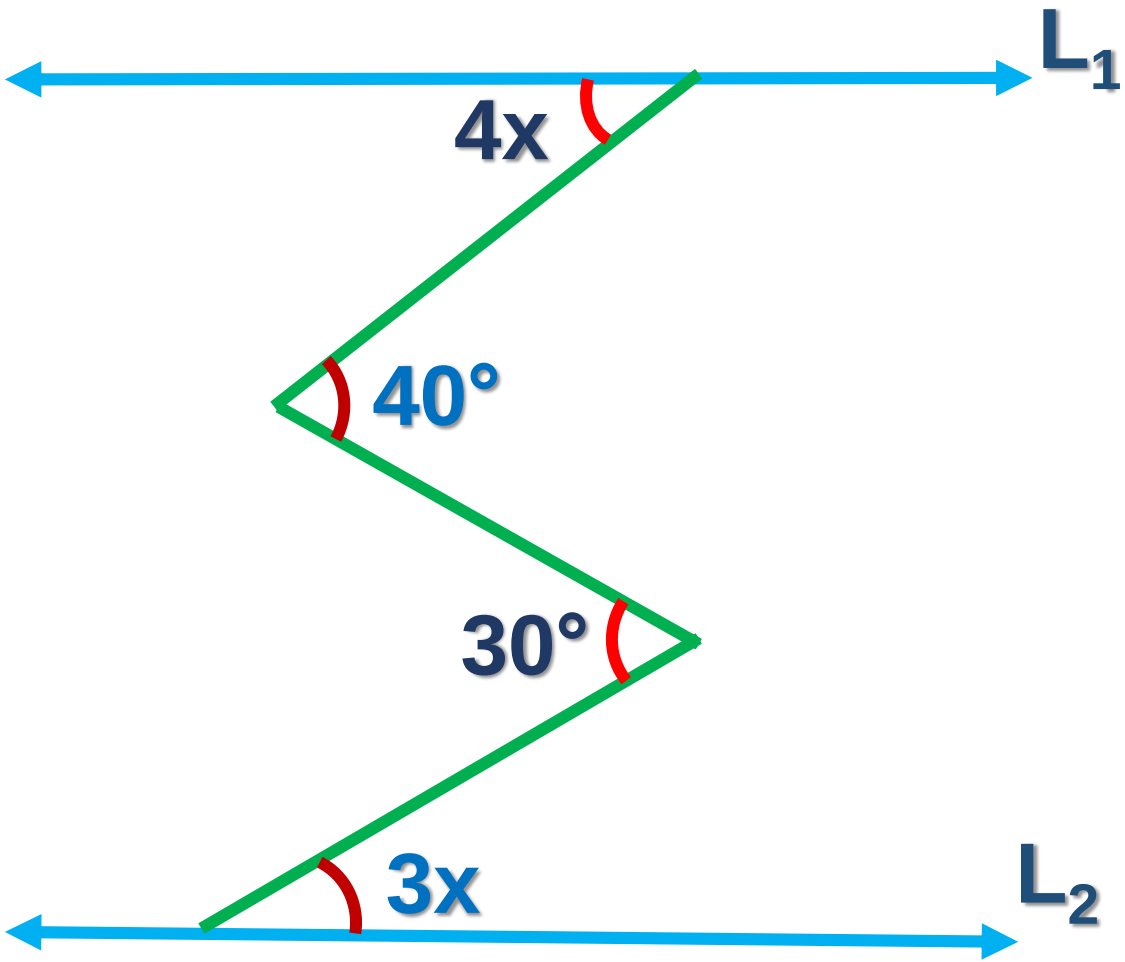


$$3\theta + 60° = 180°$$

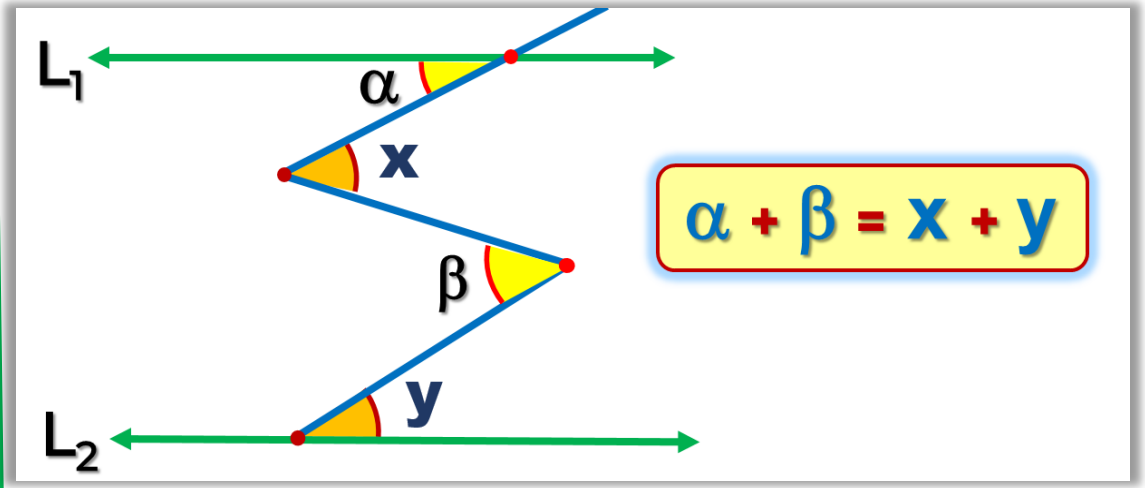
$$3\theta = 120°$$

$$\theta = 40°$$

3. Si $\overleftrightarrow{L_1}$ // $\overleftrightarrow{L_2}$, halle el valor de x.



Resolución

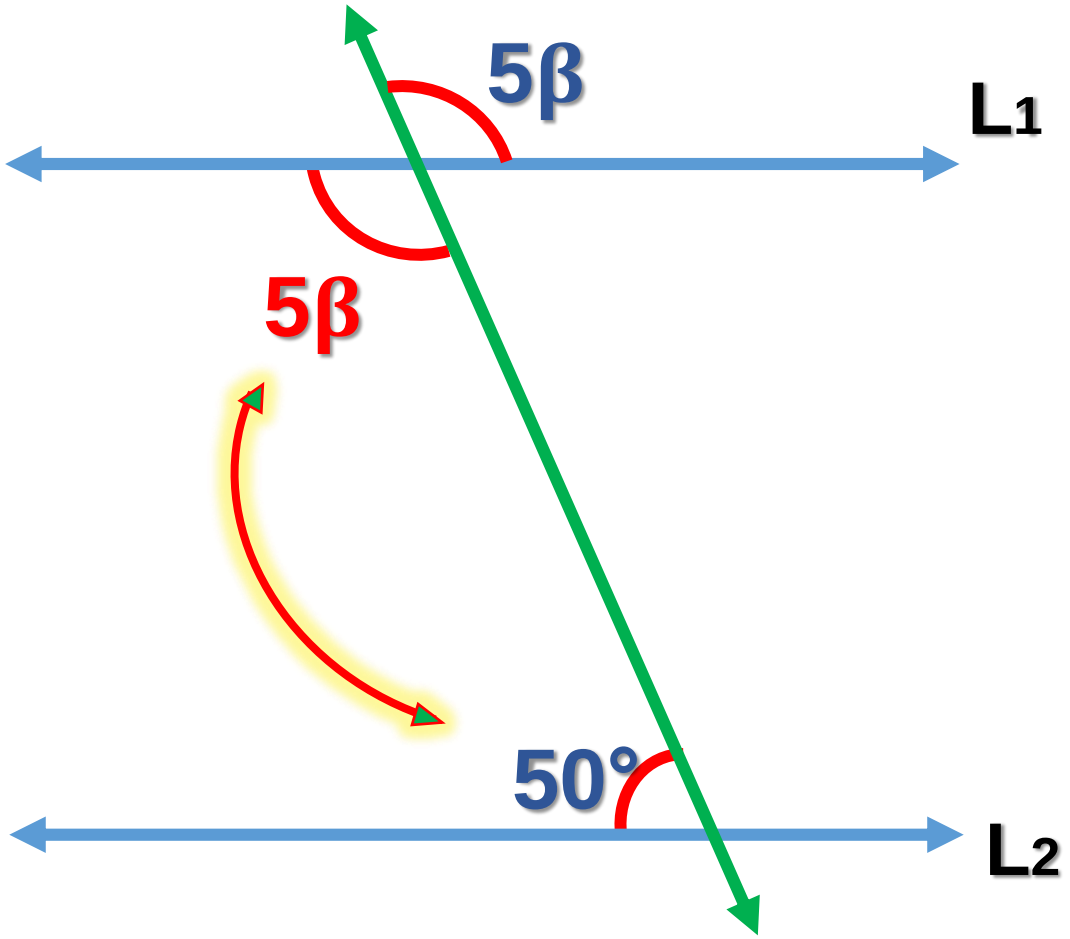


$$4x + 30° = 40° + 3x$$

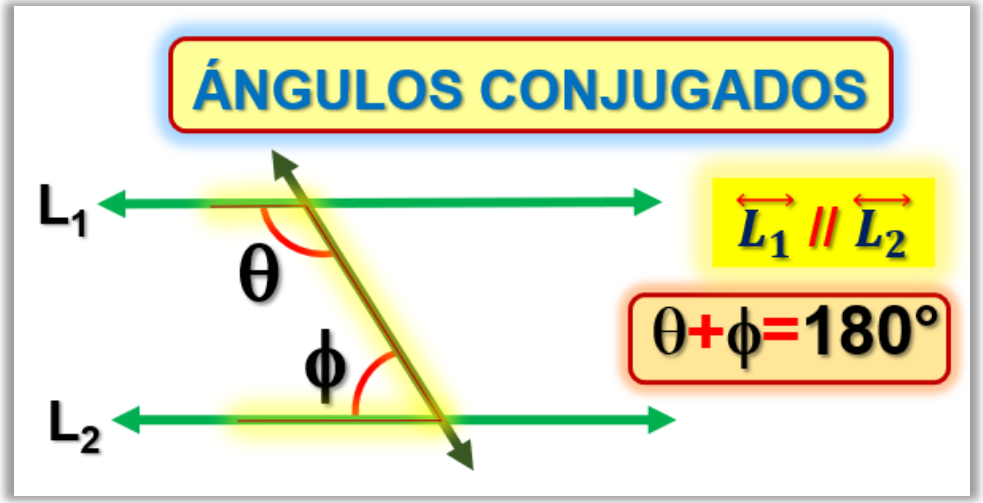
$$4x - 3x = 40° - 30°$$

$$x = 10°$$

4. Si $\overleftrightarrow{L_1} \parallel \overleftrightarrow{L_2}$, halle el valor de β.



Resolución

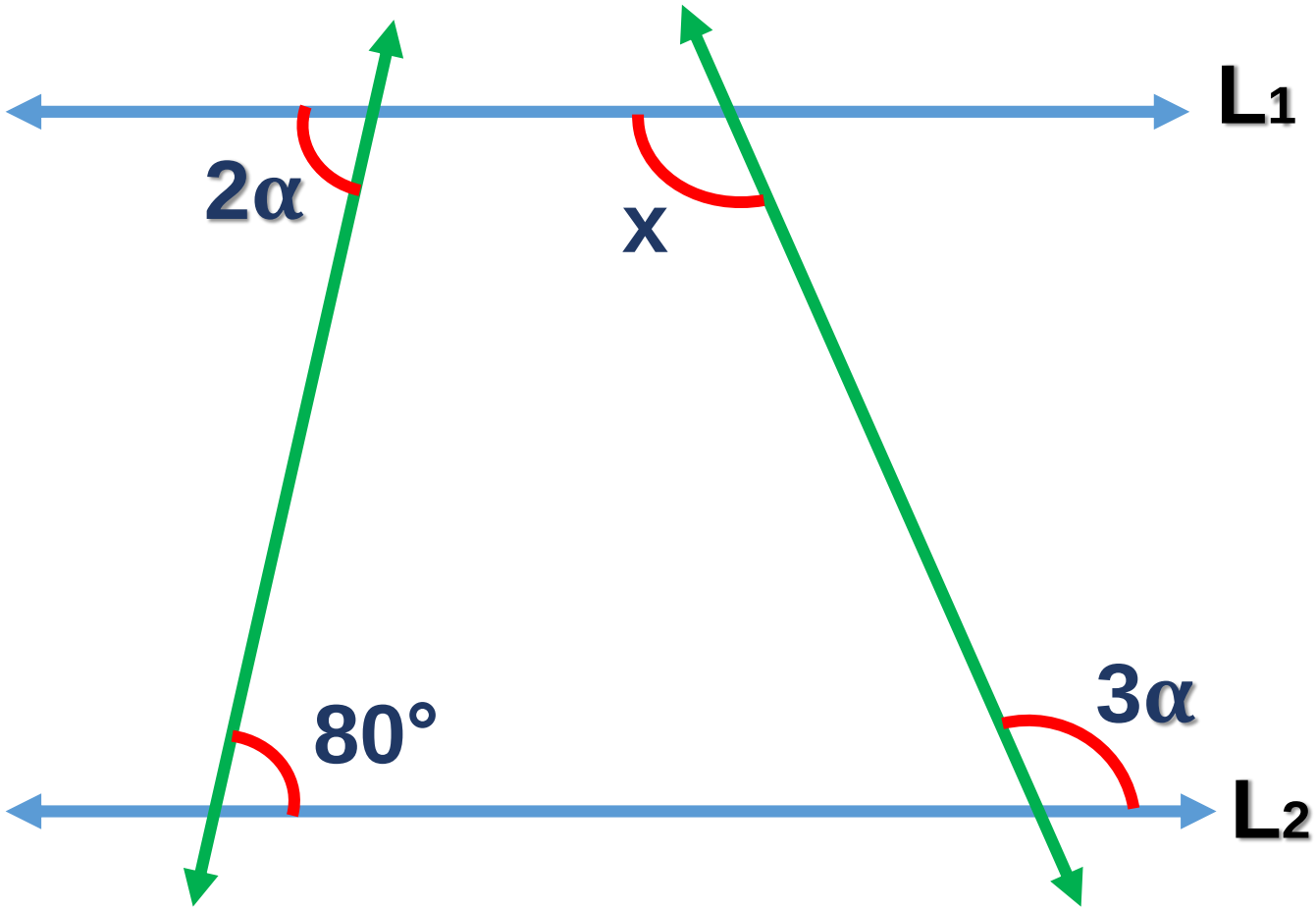


$$5\beta + 50° = 180°$$

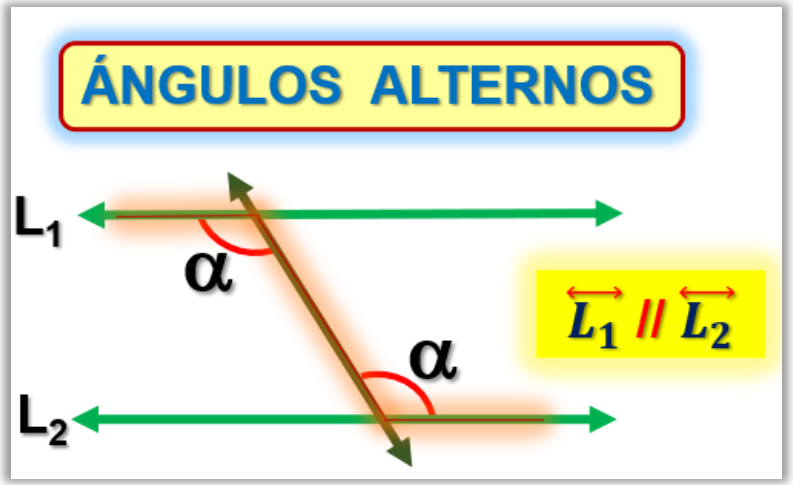
$$5\beta = 130°$$

$$\beta = 26°$$

5. Si $\overleftrightarrow{L_1}$ // $\overleftrightarrow{L_2}$, halle el valor de x.



Resolución



- $2\alpha = 80°$

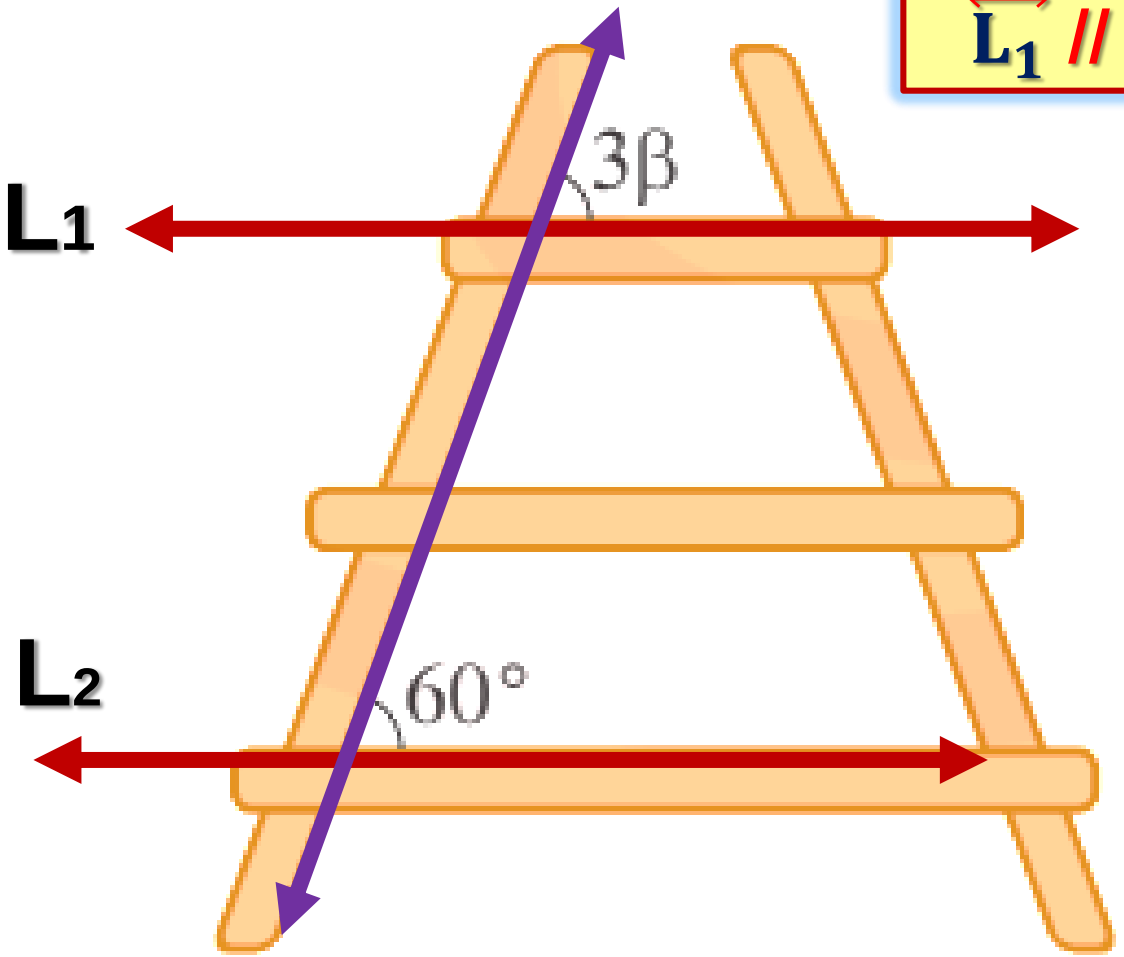
  $\alpha = 40°$

- $x = 3(\alpha)$

  $40°$

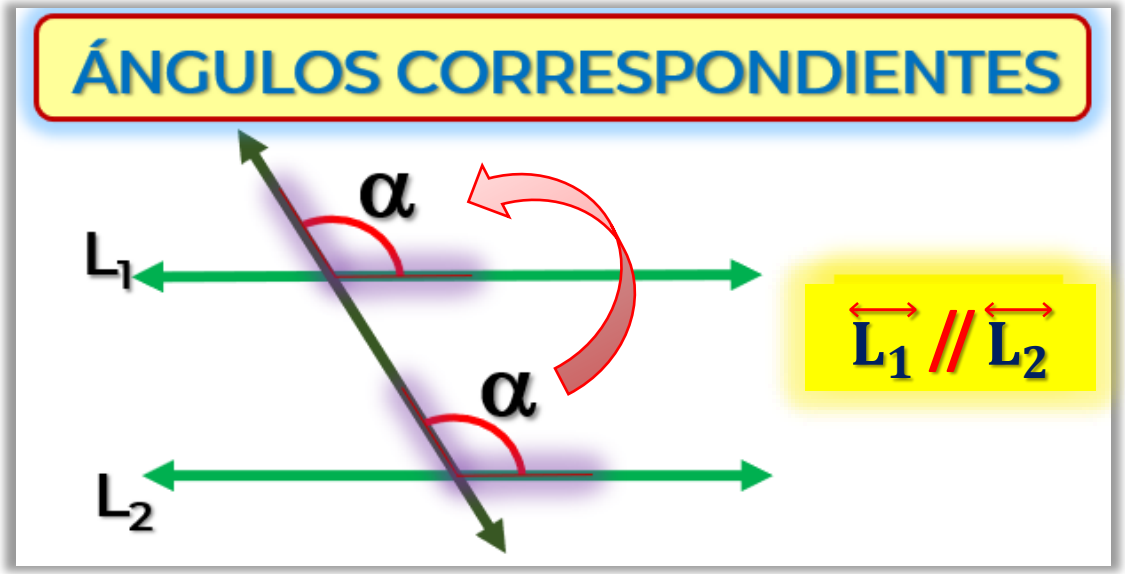
$x = 120°$

6. En el gráfico se muestra una escalera. Halle el valor de β.



$\overleftrightarrow{L_1} \parallel \overleftrightarrow{L_2}$

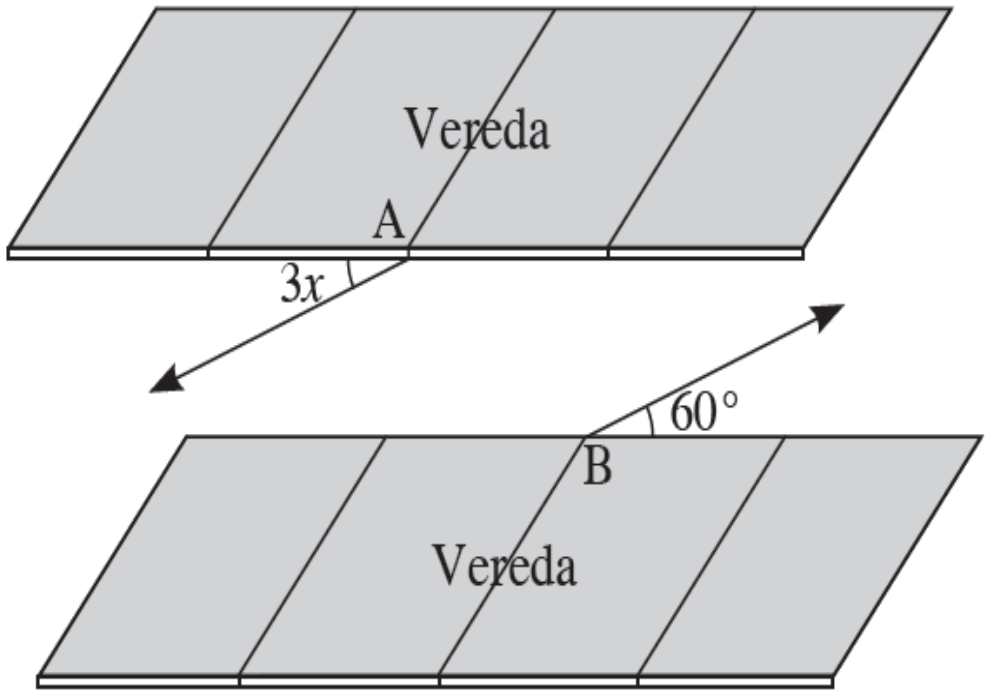
Resolución



$3\beta = 60°$

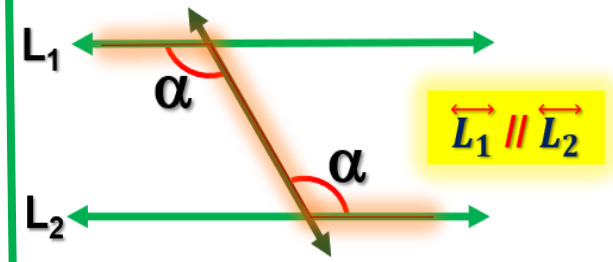
$\beta = 20°$

7. Dos personas situadas en A y B cruzan la pista en direcciones paralelas y forman con las veredas ángulos que miden 3x y 60°, respectivamente. Halle el valor de x.

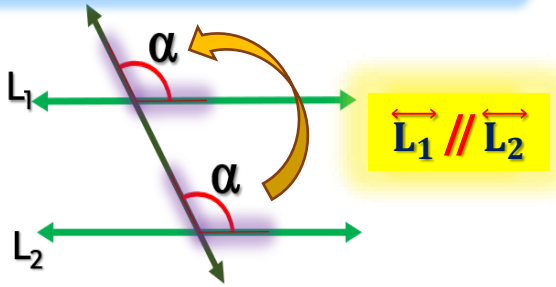


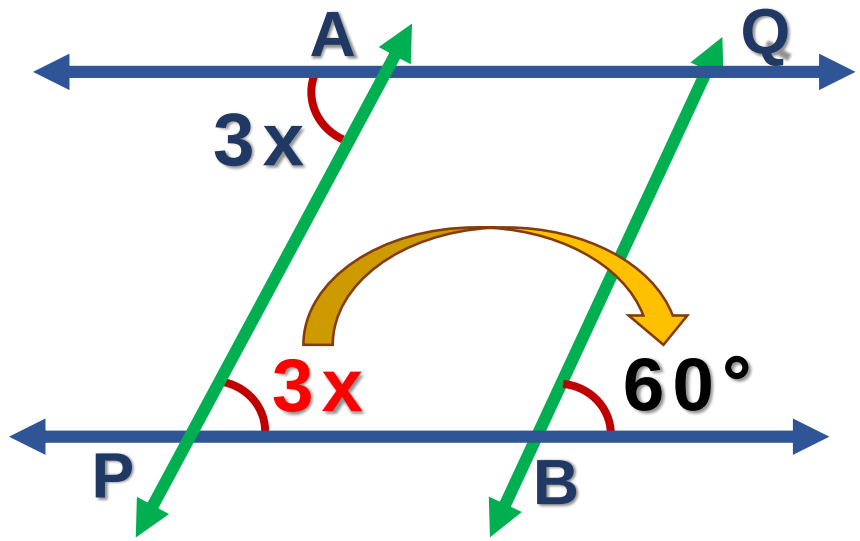
Resolución

ÁNGULOS ALTERNOS



ÁNGULOS CORRESPONDIENTES





$3x = 60°$

$x = 20°$