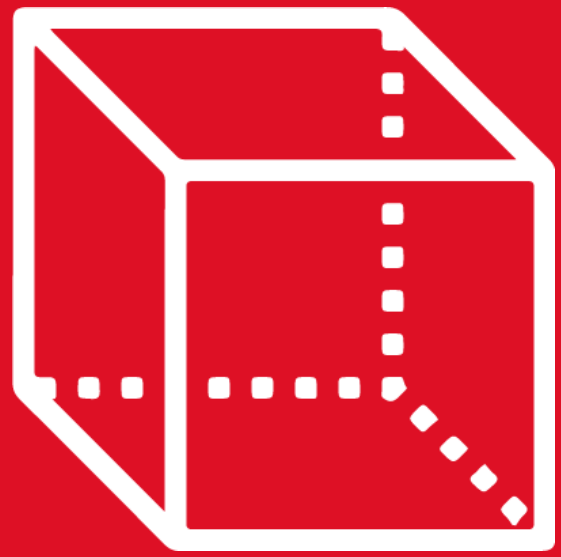
# GEOMETRÍA

## Capítulo 4

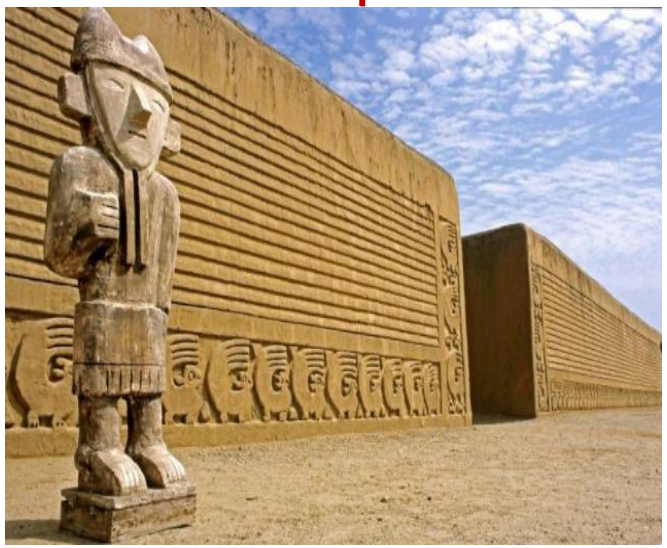


1st
SECONDARY

## Rectas paralelas

SACO OLIVEROS

# MOTIVATING | STRATEGY



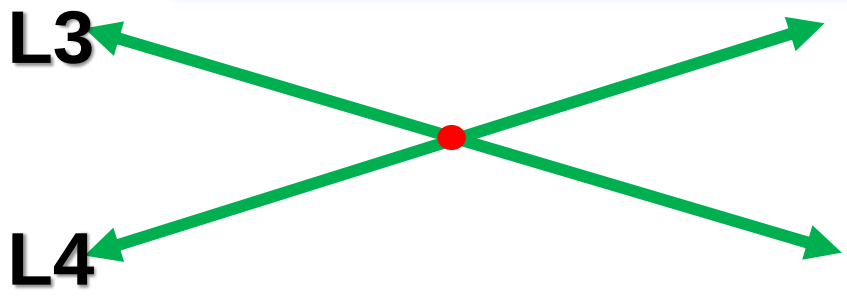
# ÁNGULOS ENTRE DOS RECTAS PARALELAS Y UNA SECANTE

**RECTAS PARALELAS** : Son aquellas rectas coplanales que no tienen ningún punto en común.

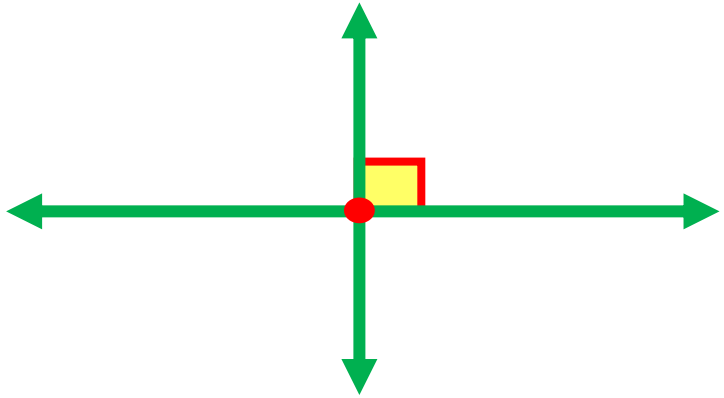
**Rectas paralelas**


$L_1 \parallel L_2$

**Rectas Secantes**

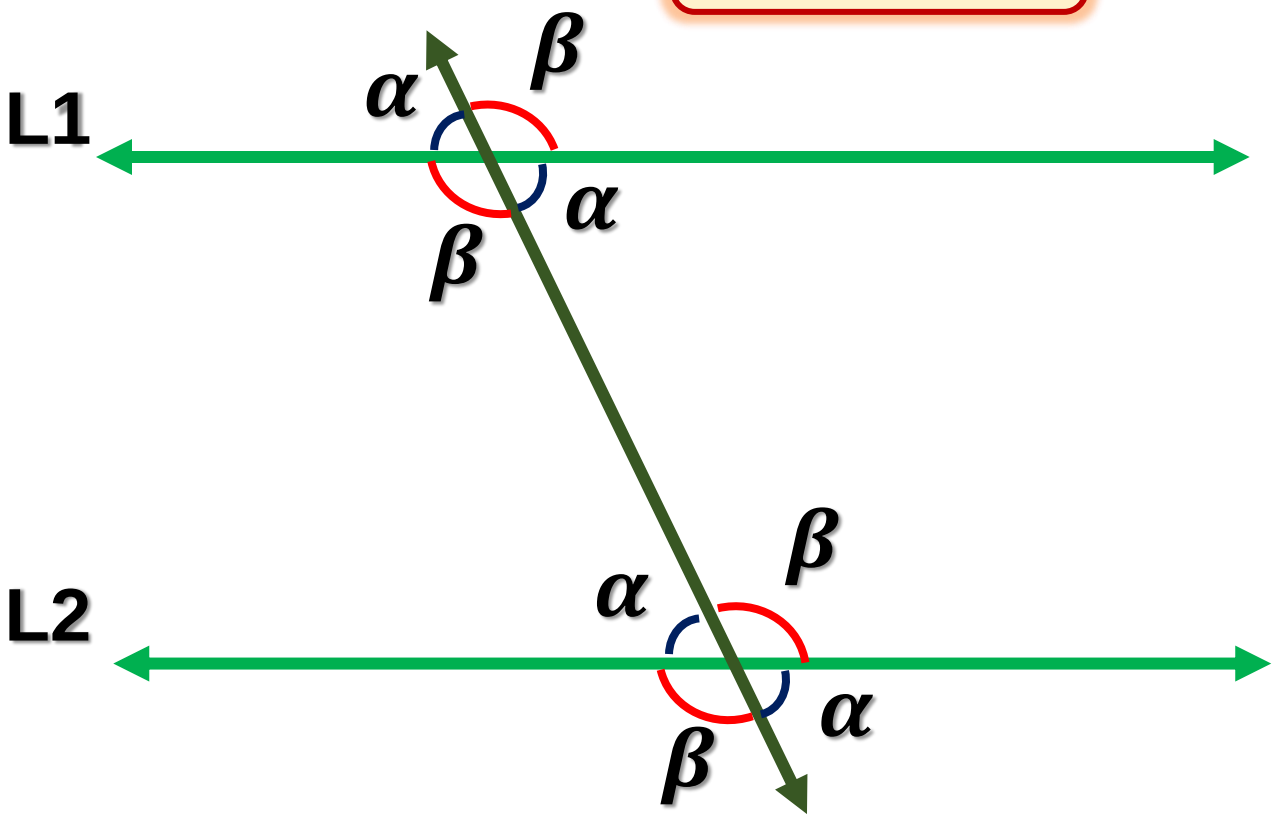



**Rectas Perpendiculares**

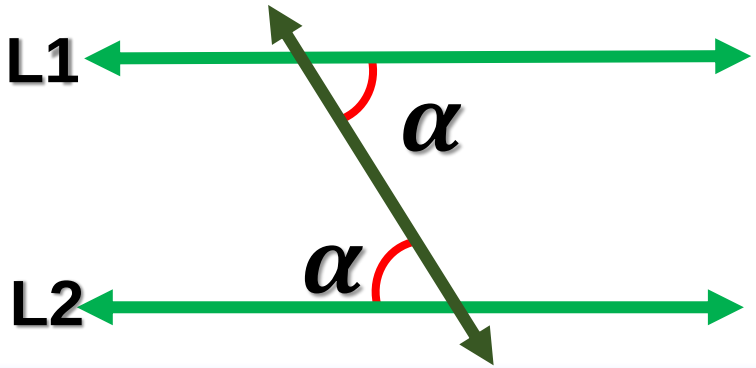


# ÁNGULOS FORMADOS POR DOS RECTAS PARALELAS Y UNA SECANTE

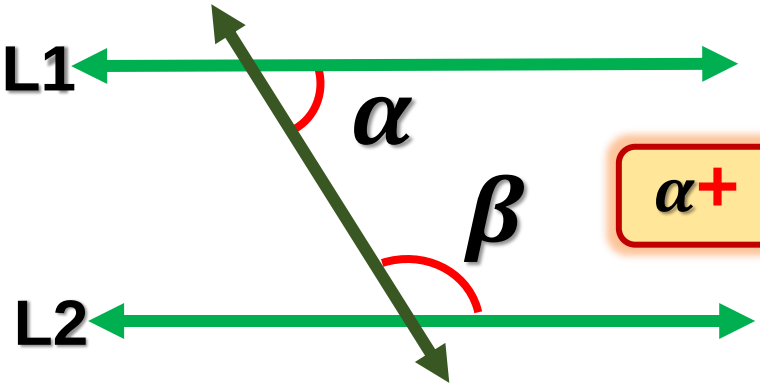
L1 // L2




## ÁNGULOS ALTERNOS INTERNOS

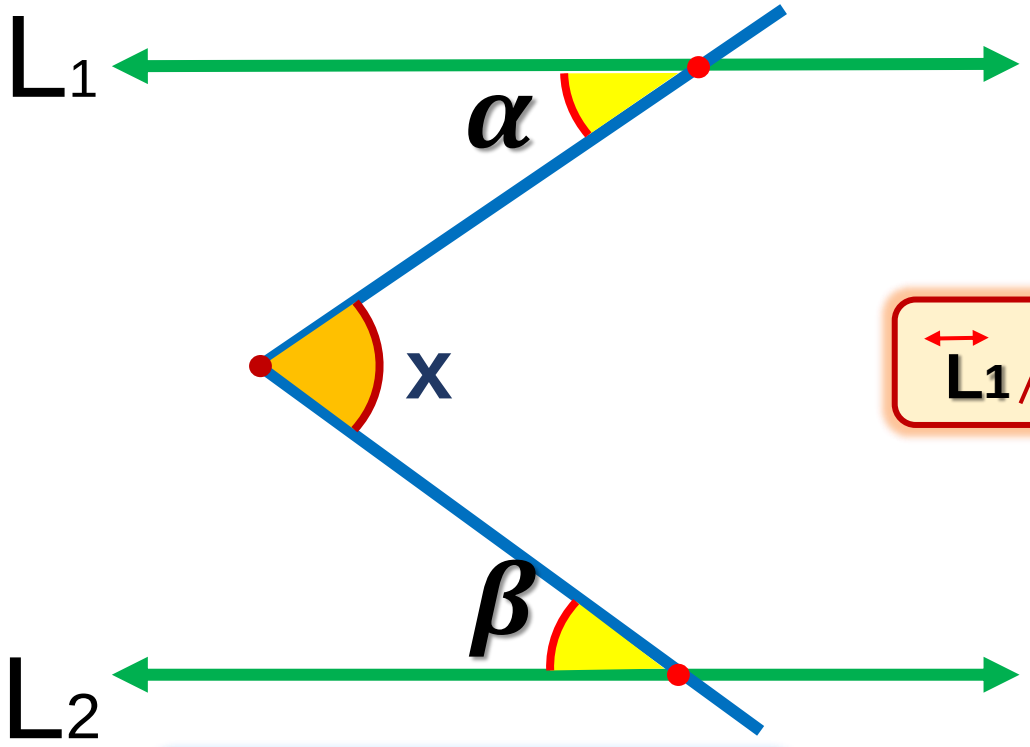



## ÁNGULOS CONJUGADOS



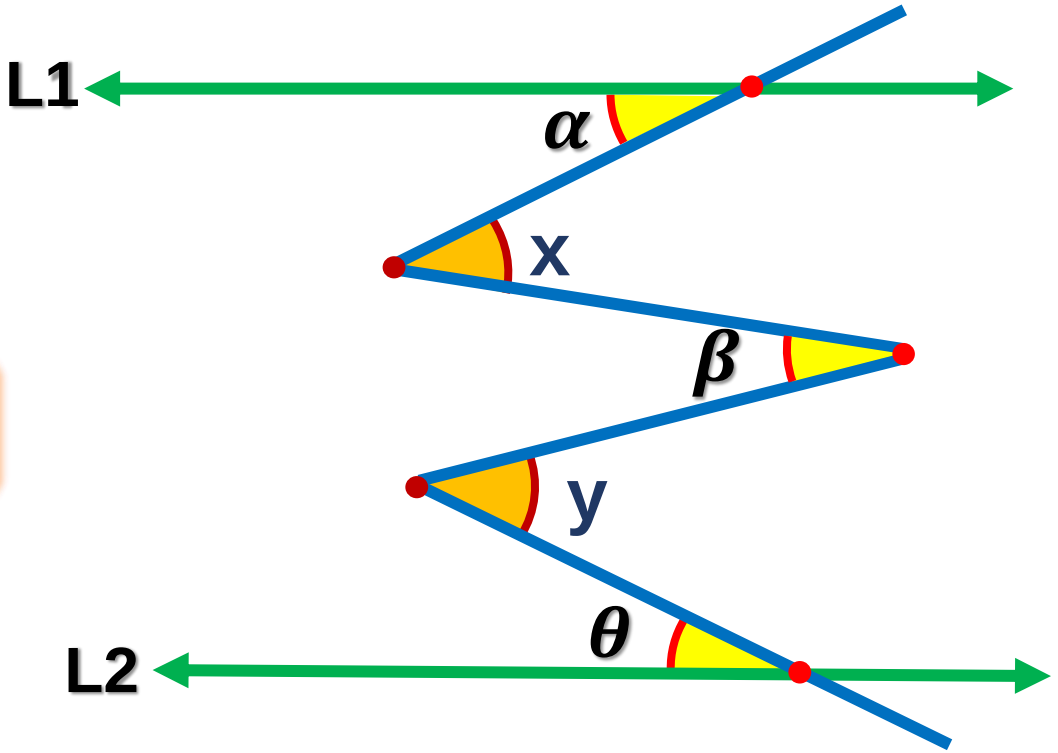

$\alpha + \beta = 180°$

# TEOREMAS



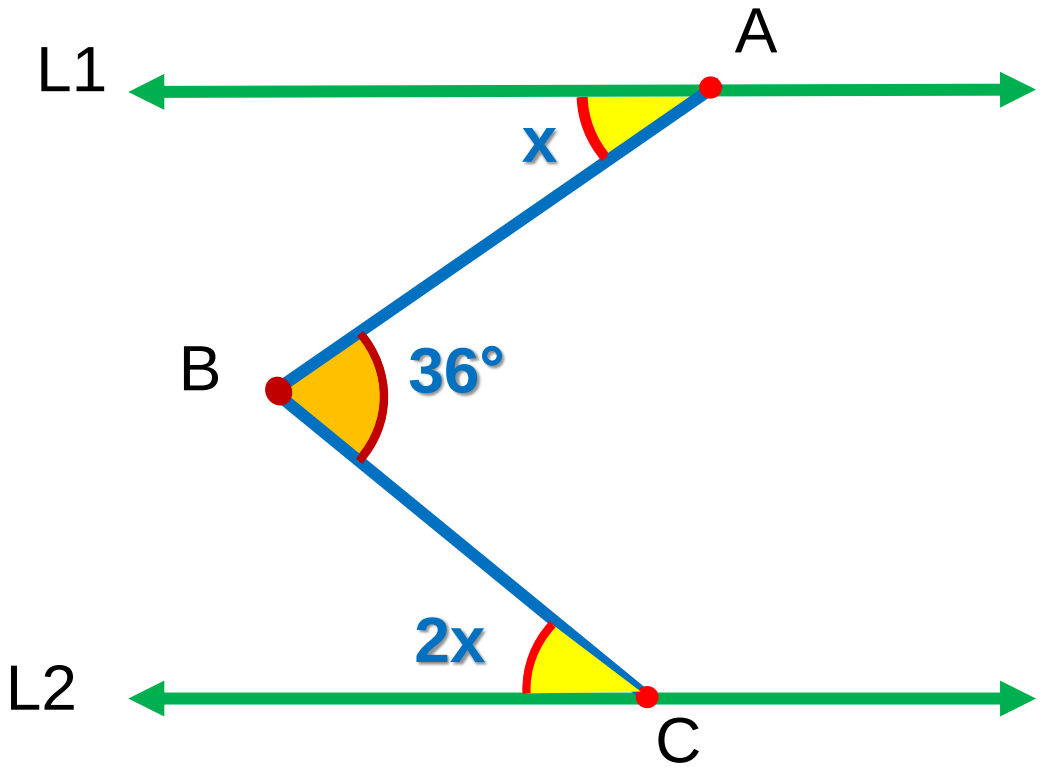

$\overleftrightarrow{L_1} // \overleftrightarrow{L_2}$

$$x = \alpha + \beta$$

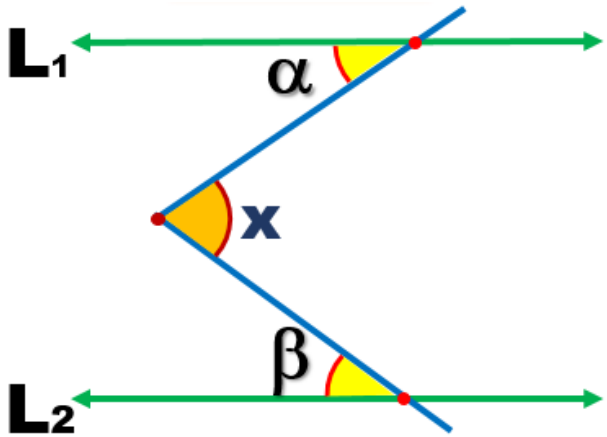



$$x + y = \alpha + \beta + \theta$$

## 1. Si $\overleftrightarrow{L1}$ // $\overleftrightarrow{L2}$, halle el valor de x.




### Resolución



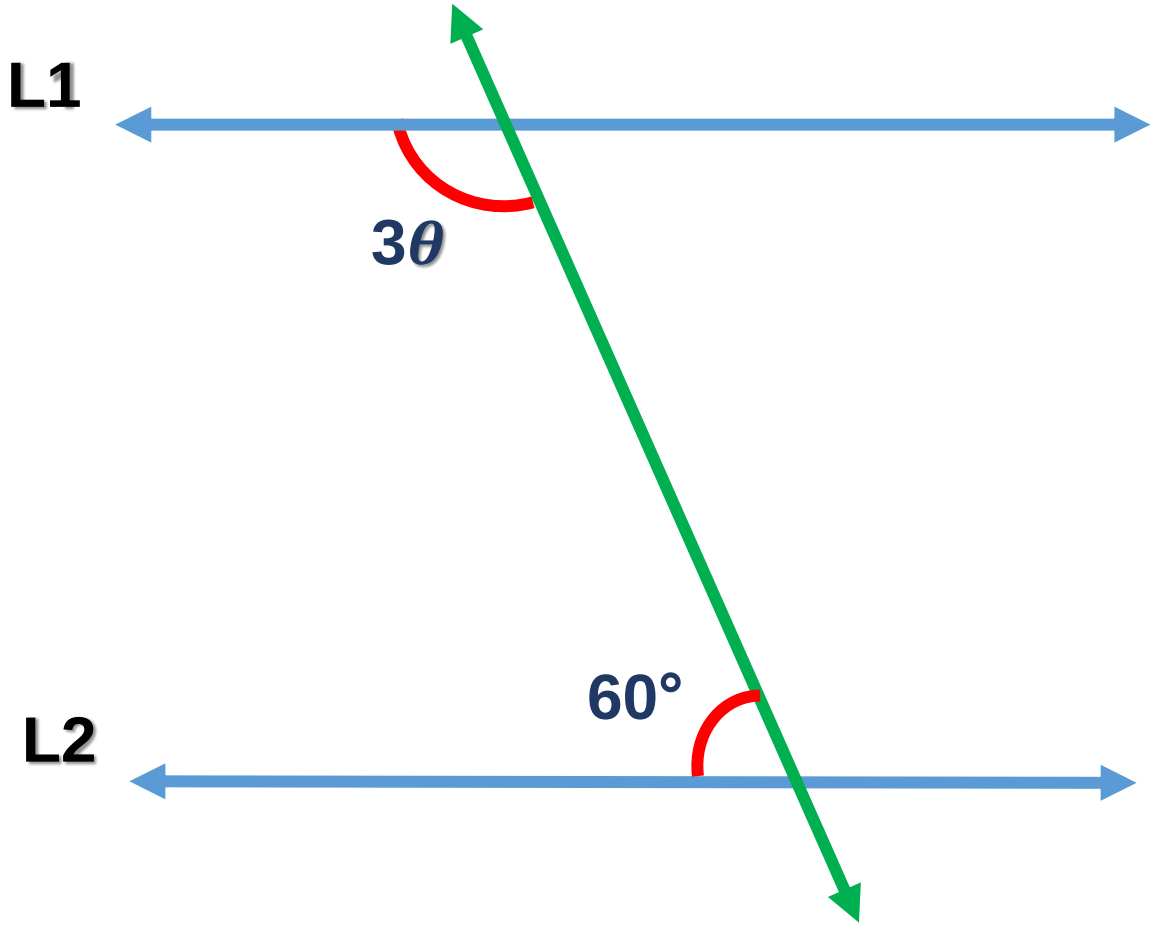

$x = \alpha + \beta$

$x + 2x = 36°$

$3x = 36°$

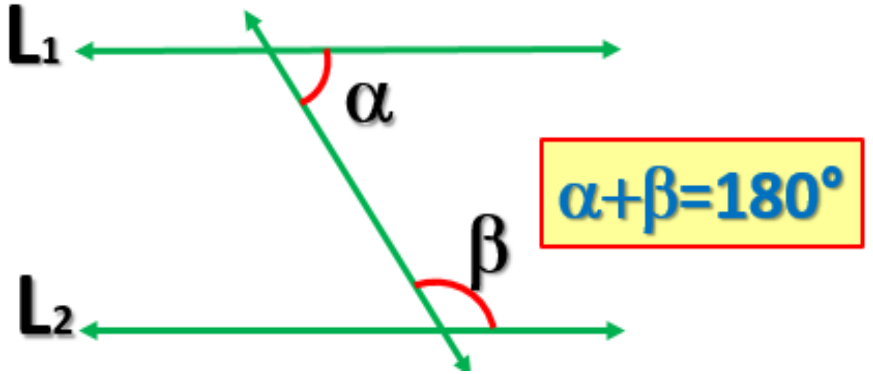
$x = 12°$

## 2. Si $\overleftrightarrow{L1}$ // $\overleftrightarrow{L2}$ , halle el valor de $\theta$.




### Resolución

**Ángulos conjugados**



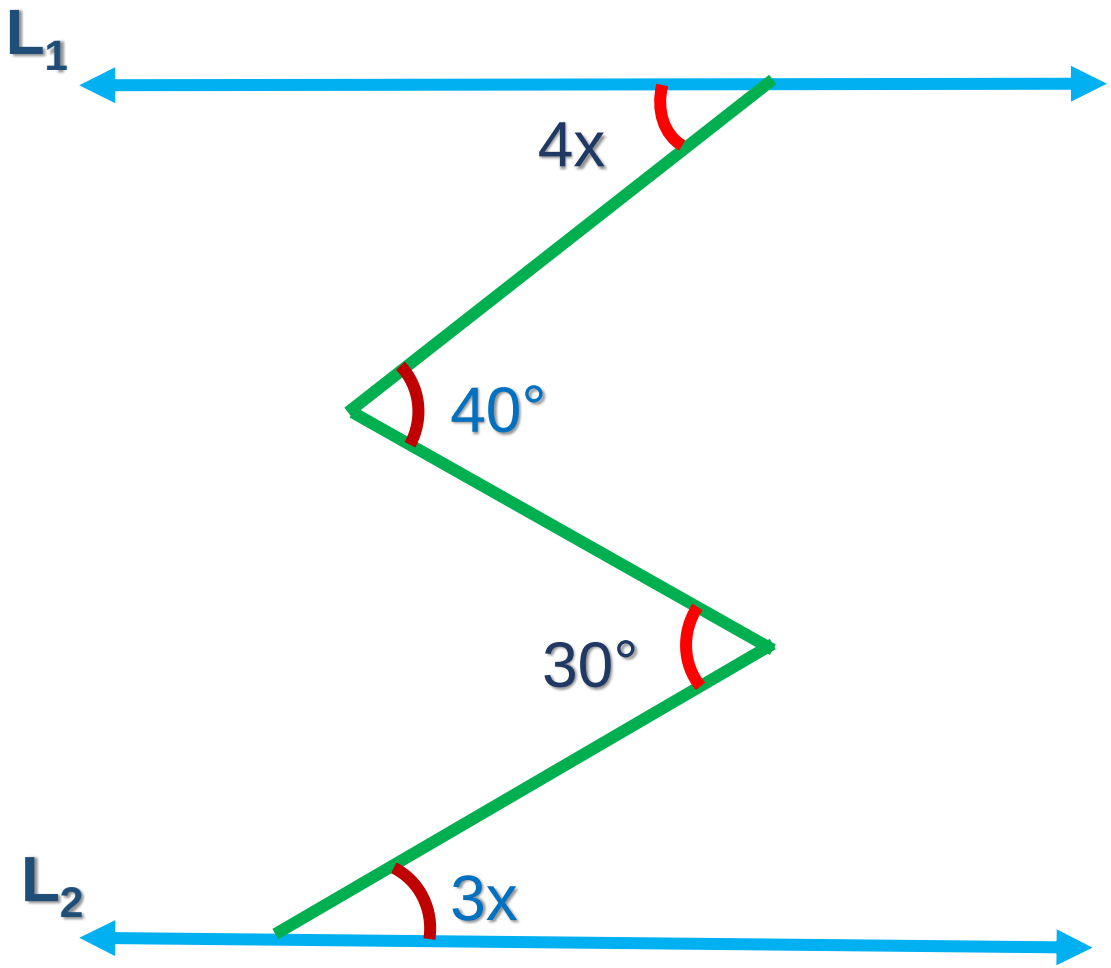

$\alpha+\beta=180°$

$3\theta + 60° = 180°$

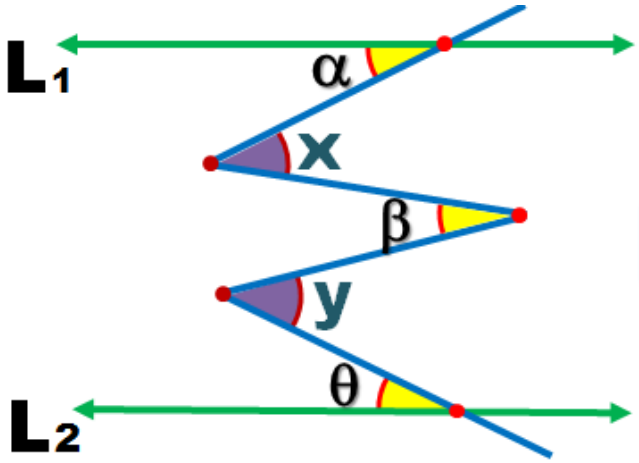
$3\theta = 120°$

$\theta = 40°$

## 3. Si $\overleftrightarrow{L1}$ // $\overleftrightarrow{L2}$, halle el valor de x.




## Resolución

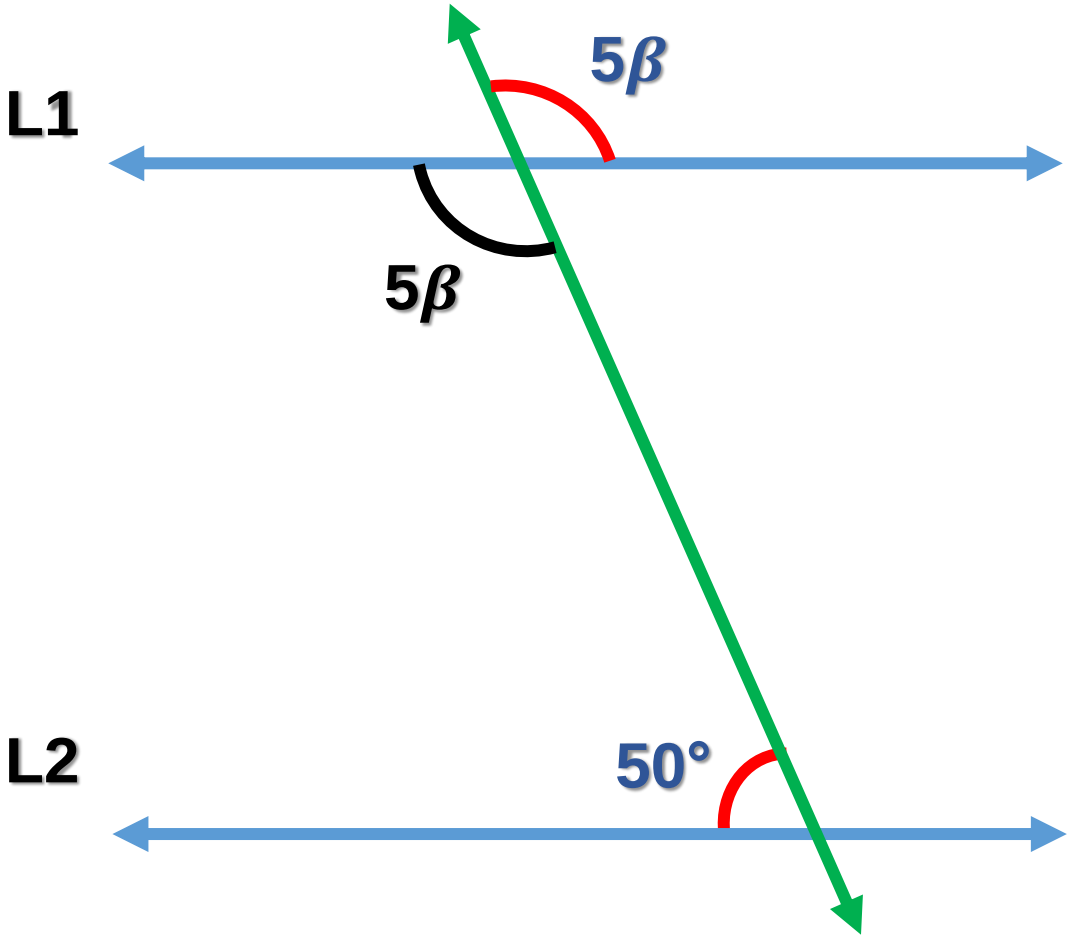



$x+y = \alpha+\beta+\theta$

$4x - 3x = 40° - 30°$

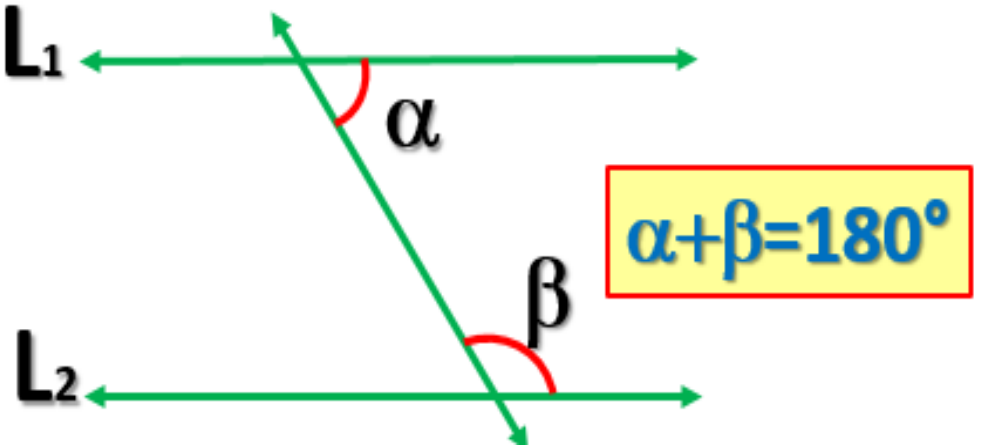
$x = 10°$

## 4. Si $\overleftrightarrow{L1} \parallel \overleftrightarrow{L2}$, halle el valor de $\beta$.




## Resolución

### Ángulos conjugados

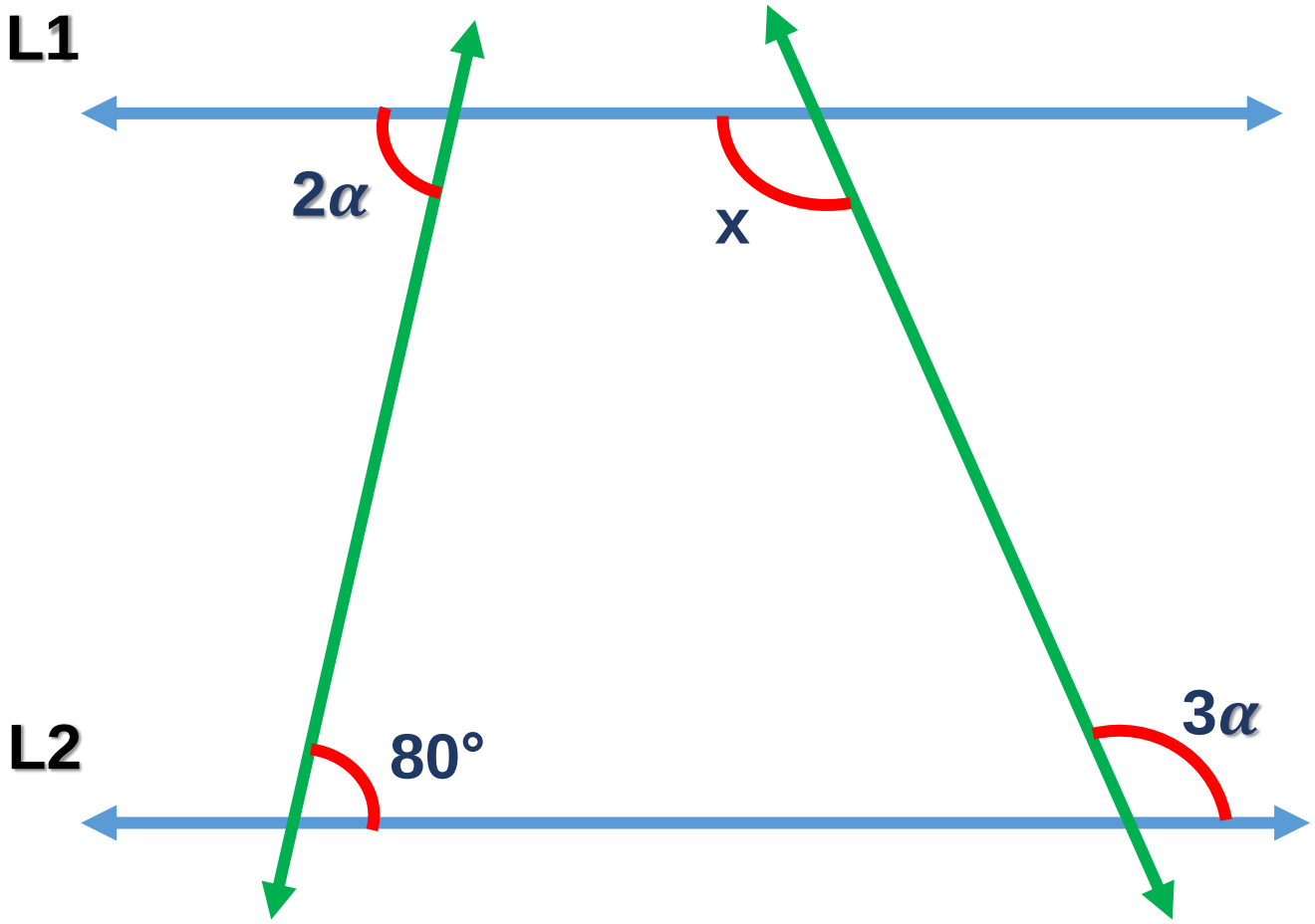



$$5\beta + 50° = 180°$$

$$5\beta = 130°$$

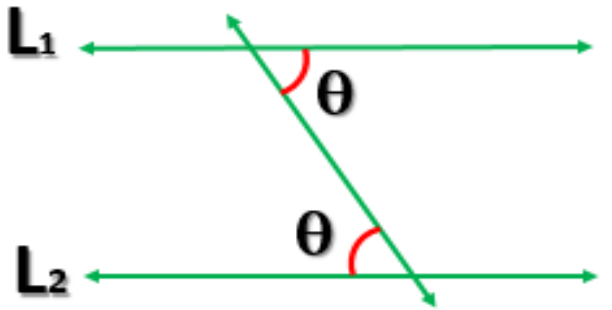
$$\beta = 26°$$

## 5. Si $\overleftrightarrow{L1}$ // $\overleftrightarrow{L2}$, halle el valor de x.




## Resolución

**Ángulos alternos internos**




- $2\alpha = 80°$

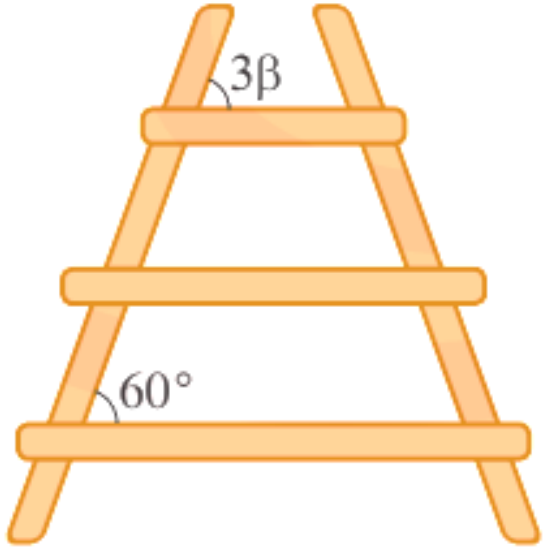
  $\alpha = 40°$

- $x = 3(\alpha)$

  $40°$

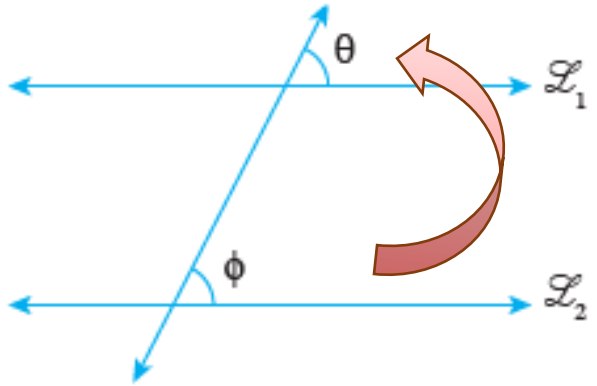
$x = 120°$

## 6. En el gráfico se muestra una escalera. Halle el valor de $\beta$.




### Resolución

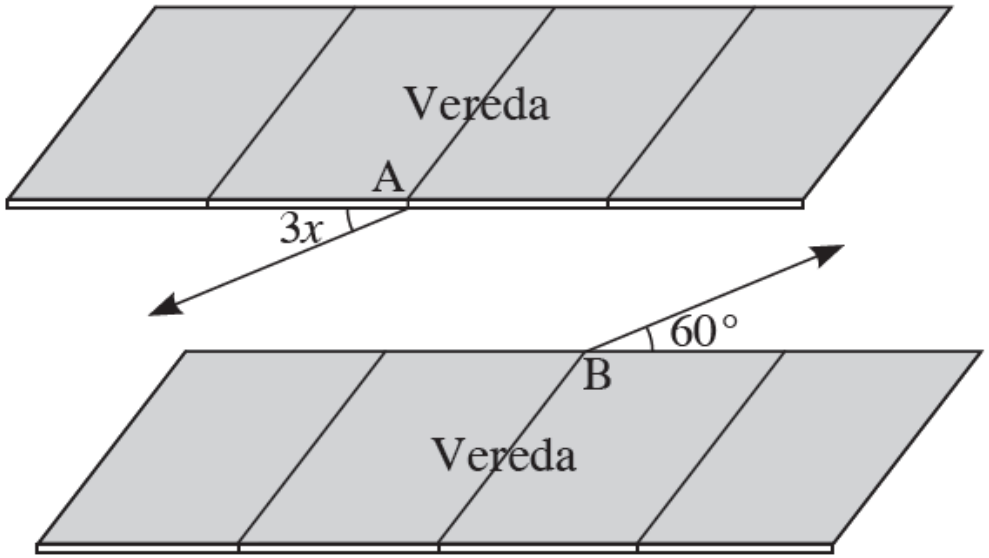
**Ángulos correspondientes**




$$3\beta = 60°$$

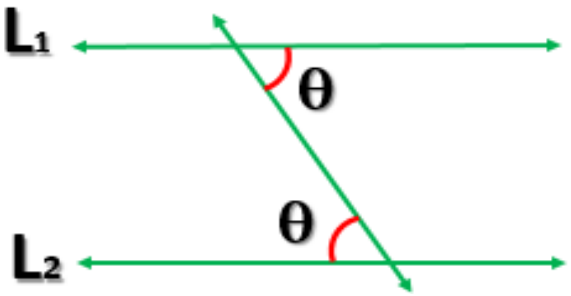
$$\beta = 20°$$

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 $x$.

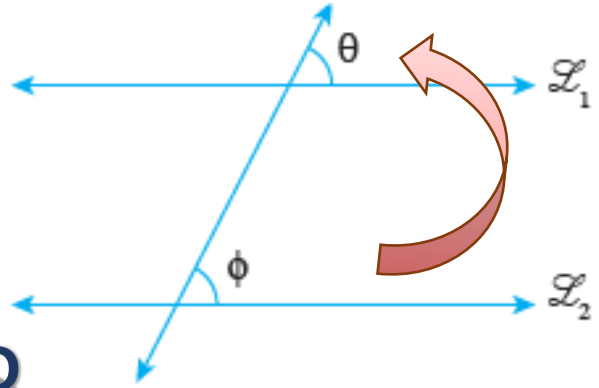


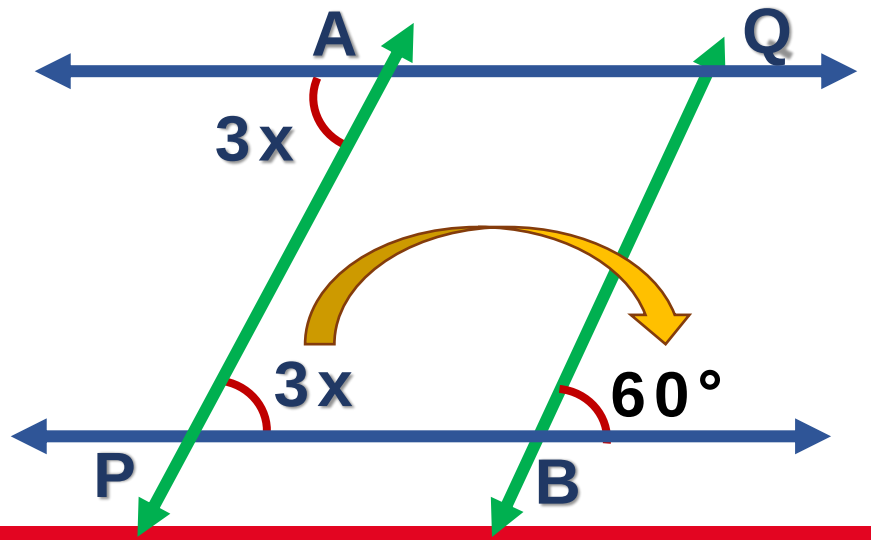

## Resolución

**Ángulos alternos internos**




**Ángulos correspondientes**




$3x = 60°$

$x = 20°$