

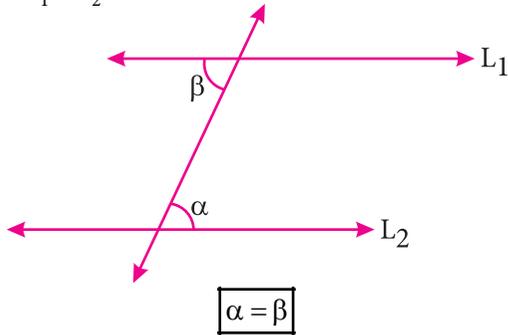


ÁNGULOS ENTRE RECTAS PARALELAS CORTADAS POR UNA SECANTE

En este capítulo, veremos los tipos de ángulos que se forman al trazar dos rectas paralelas y una recta secante. Para ello, partiremos de los gráficos siguientes:

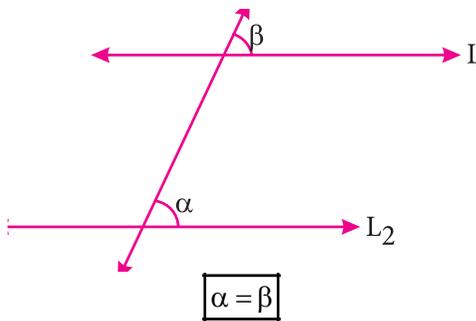
- **Alternos internos**

Si $\overline{L_1} // \overline{L_2}$



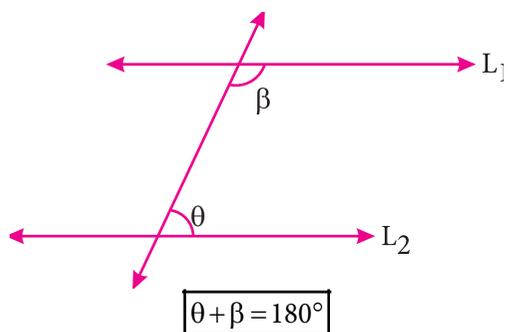
- **Correspondientes**

Si $\overline{L_1} // \overline{L_2}$



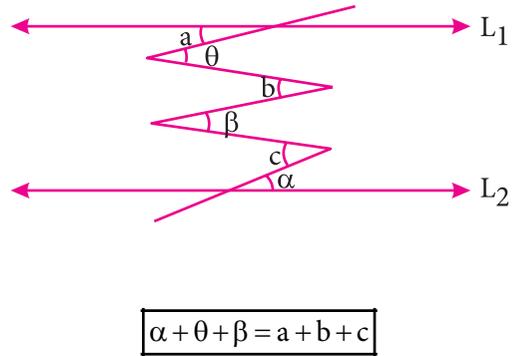
- **Conjugados**

Si $\overline{L_1} // \overline{L_2}$

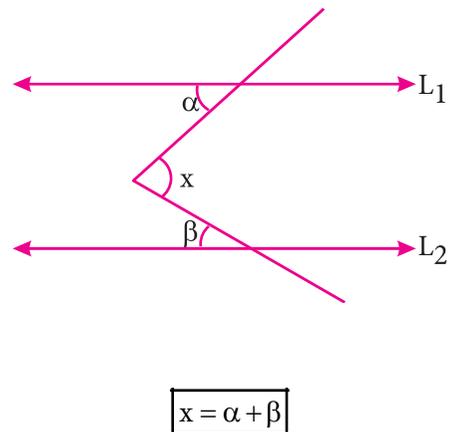


Propiedades adicionales

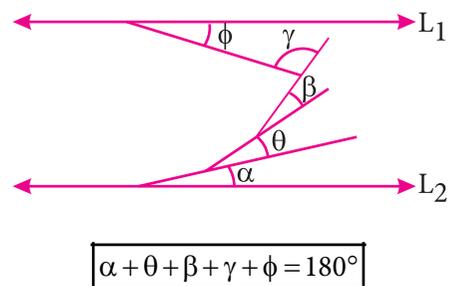
- $\overline{L_1} // \overline{L_2}$



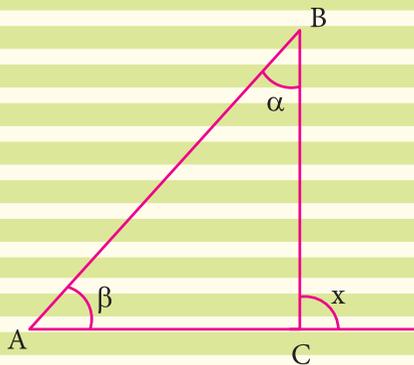
- $\overline{L_1} // \overline{L_2}$



- $\overline{L_1} // \overline{L_2}$



OBSERVACIÓN:

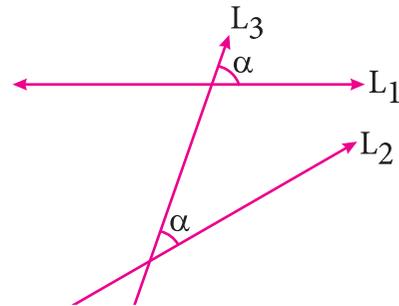


$$x = \alpha + \beta$$

Advertencia Pre

Ten en cuenta que en muchos problemas de examen de admisión de la UNI se presenta en la siguiente gráfica:

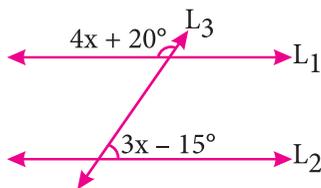
Por lo tanto $\bar{L}_1 // \bar{L}_2$ por ser el ángulo " α " en correspondencia.



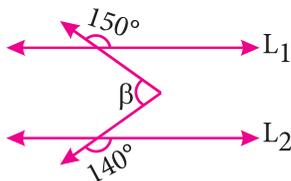
TRABAJANDO EN CLASE

Integral

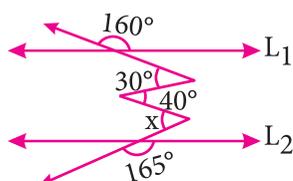
1. Si \bar{L}_1 y \bar{L}_2 son paralelas. Calcula "x".



2. Si \bar{L}_1 y \bar{L}_2 son paralelos. Calcula " β ".

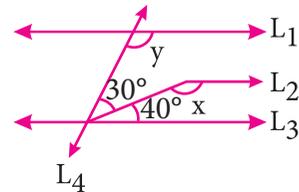


3. Si \bar{L}_1 y \bar{L}_2 son paralelos. Calcula "x".



PUCP

4. Si \bar{L}_1, \bar{L}_2 y \bar{L}_3 son paralelos. Calcula " $x - y$ ".



Resolución:

$$\bar{L}_1 // \bar{L}_3 : x + 20^\circ = 180^\circ$$

$$x = 160^\circ$$

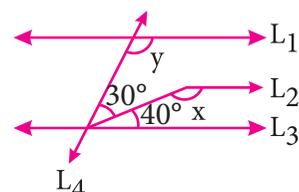
$$\bar{L}_1 // \bar{L}_3 : y + 60^\circ = 180^\circ$$

$$y = 120^\circ$$

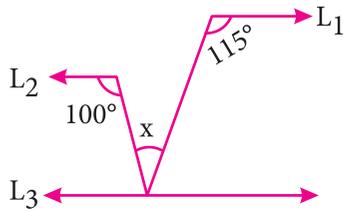
Piden: $x - y = 160^\circ - 120^\circ$

$$x - y = 40^\circ$$

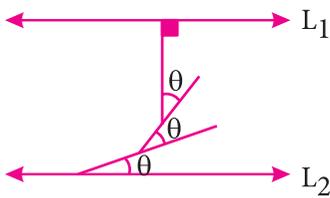
5. Si \bar{L}_1, \bar{L}_2 y \bar{L}_3 son paralelos, calcula " $x - y$ ".



6. Si $\bar{L}_1; \bar{L}_2$ y \bar{L}_3 son paralelas, calcula "x".

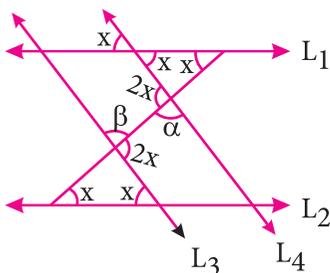


7. Si \bar{L}_1 y \bar{L}_2 son paralelas, calcula "θ".



UNMSM

8. Si \bar{L}_1 y \bar{L}_2 son paralelos y $\alpha + \beta = 5x$, calcula el valor de "x".



(UNMSM - 2010-II)

Resolución:

En L_3 : $2x + \beta = 180^\circ \dots (1)$

En L_4 : $2x + \alpha + 180^\circ \dots (2)$

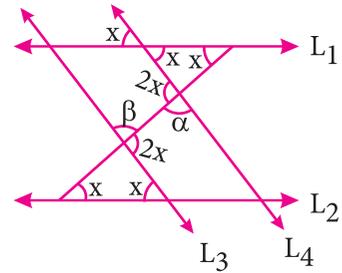
Dato: $\alpha + \beta = 5x$

Piden "x", (1) + (2).

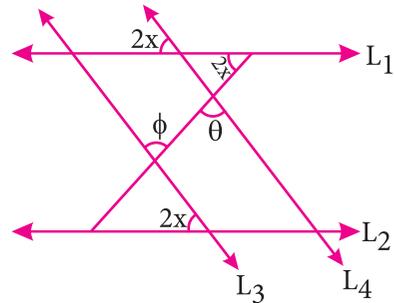
$$4x + \alpha + \beta = 360^\circ$$

$$4x + 5x = 360^\circ$$

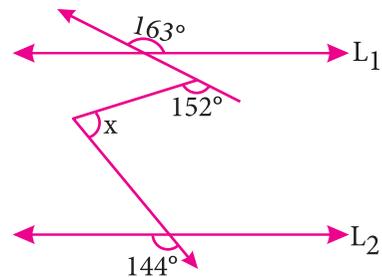
$$\boxed{x = 40^\circ}$$



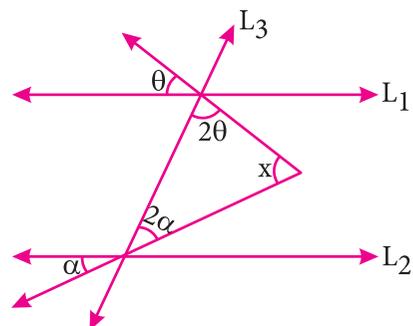
9. Si \bar{L}_1 y \bar{L}_2 son paralelos $\theta + \phi = 4x$, calcula el valor de "x".



10. Si \bar{L}_1 y \bar{L}_2 son paralelos, calcula "x".

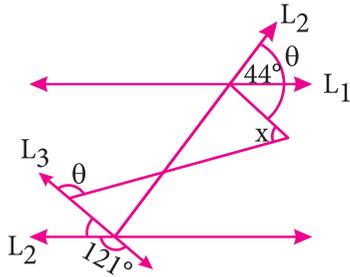


11. Si $\bar{L}_1 // \bar{L}_2$ calcula "x".



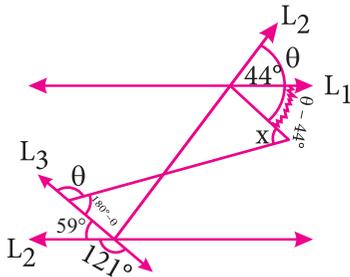
UNI

12. Calcula "x", si $\vec{L}_1 // \vec{L}_2$.



Resolución:

Completamos los ángulos para aplicar la propiedad del serrucho.

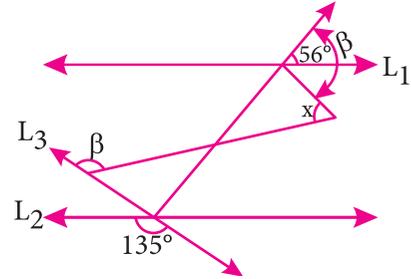


$$x + 59^\circ = \theta - 44^\circ + 180 - \theta$$

$$x = 136^\circ - 59^\circ$$

$$\boxed{x = 77^\circ}$$

13. Calcula "x" si $\vec{L}_1 // \vec{L}_2$.



14. Si $\vec{L}_1 // \vec{L}_2$ calcula "x".

