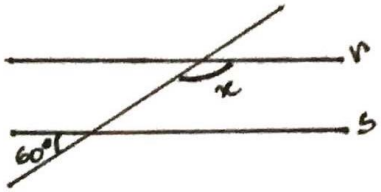
Geometria Plana

1)

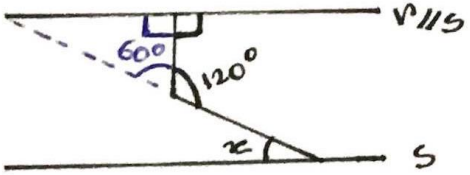


$x + 60^\circ = 180^\circ$

$x = 180 - 60$

$x = 120^\circ$

2)

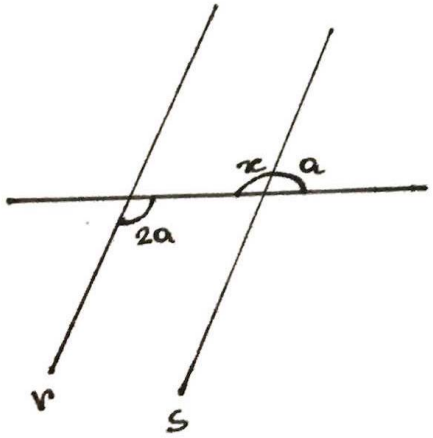


$60^\circ + 90^\circ + x = 180$

$x = 180 - 150$

$x = 30^\circ$

3)



$x = 2a$ ⇒ alternos externos

$x + a = 180^\circ$

$2a + a = 180^\circ$

$3a = 180$

$a = \frac{180}{3}$

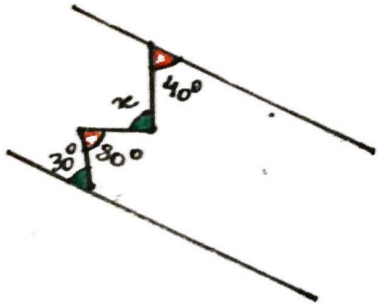
$a = 60^\circ$

$x = 2a$

$x = 2 \cdot 60$

$x = 120^\circ$

(4)



Teorema dos bicos: { bicos da direita = bicos da esquerda

$x + 30 = 40 + 80$

$x = 40 + 80 - 30$

$x = 90°$

(5)

$$\alpha = \frac{5}{4} \cdot (180 - \alpha)$$

$$\alpha = \frac{5(180-\alpha)}{4}$$

$$\alpha = \frac{900-5\alpha}{4}$$

$$4\alpha = 900 - 5\alpha$$

$$4\alpha + 5\alpha = 900$$

$$9\alpha = 900$$

$$\alpha = \frac{900}{9}$$

$$\alpha = 100^\circ$$

(6)

$$\beta = \frac{1}{2} \cdot 90 - \beta$$

$$\beta = \frac{90-\beta}{2}$$

$$2\beta = 90 - \beta$$

$$2\beta + \beta = 90$$

$$3\beta = 90$$

$$\beta = \frac{90}{3}$$

$$\beta = 30^\circ$$

(7)

3. $90^\circ - \theta = \frac{1}{3} \cdot 180^\circ - \theta$

$270^\circ - 3\theta = \frac{180^\circ - \theta}{3}$

$3(270^\circ - 3\theta) = 180^\circ - \theta$

$810^\circ - 9\theta = 180^\circ - \theta$

$810^\circ - 180^\circ = -\theta + 9\theta$

$630^\circ = 8\theta$

$\theta = \frac{630}{8}$

$\theta = 78{,}75$

$1^\circ - 60'$

$0{,}75^\circ - x$ $\quad = x = 60 \cdot 0{,}75$

$x = 45'$

$\theta = 78^\circ 45'$