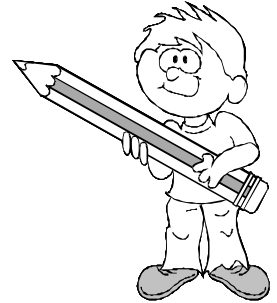
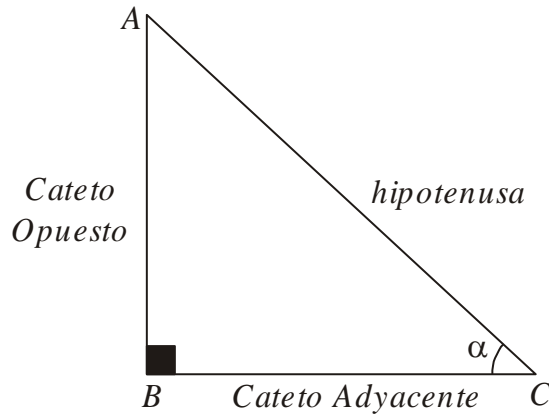




TANGENTE Y COTANGENTE

Tenemos que recordar:



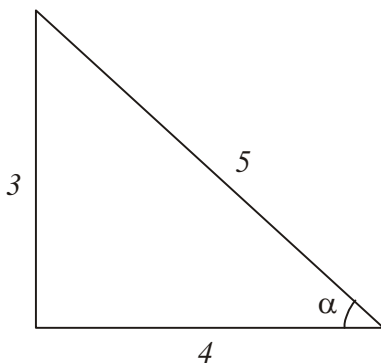
Entonces:

- $\text{tangente de } \alpha = \frac{\text{Cateto Opuesto}}{\text{Cateto Adyacente}}$
- $\text{cotangente de } \alpha = \frac{\text{Cateto Adyacente}}{\text{Cateto Opuesto}}$

Ejemplos:

1. Calcular si:

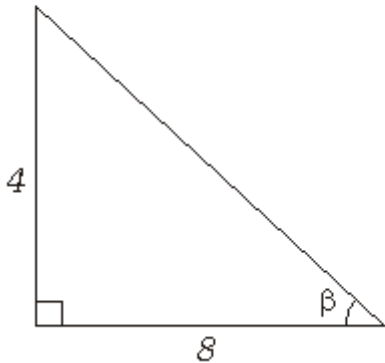
Resolución:



$$\text{tg}\alpha = \frac{\text{Cateto Opuesto}}{\text{Cateto Adyacente}}$$
$$\text{tg}\alpha = \frac{3}{4}$$



2. Calcular la $\text{ctg}\beta$.



Resolución:

Sabemos que :

$$\text{ctg}\beta = \frac{\text{Cateto Adyacente}}{\text{Cateto Opuesto}}$$

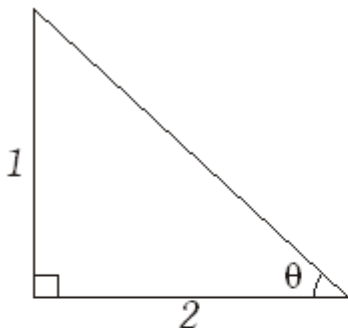
$$\text{ctg}\beta = \frac{8}{4} \Leftarrow \text{simplificando}$$

$$\text{ctg}\beta = 2$$

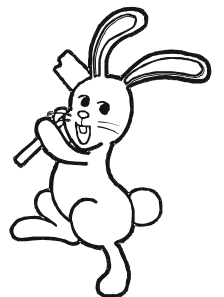
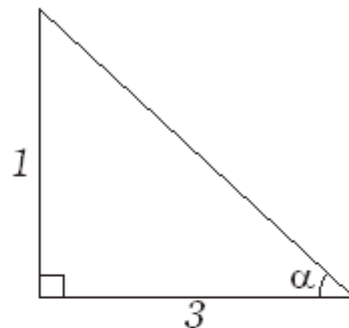


PRACTIQUEMOS

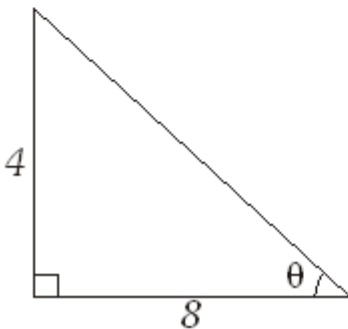
1. Calcular $\text{tg}\theta$ si:



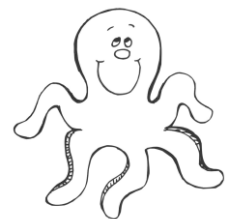
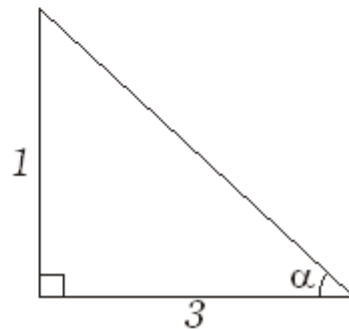
2. Calcular $\text{ctg}\alpha$ si:



3. Calcular $\text{tg}\theta$ si:

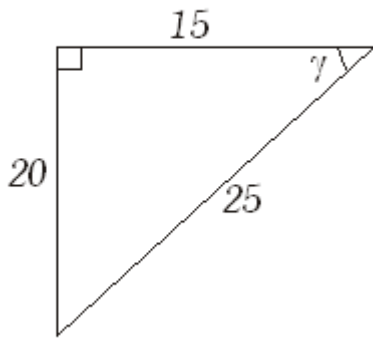


4. Calcular $\text{ctg}\alpha$ si:

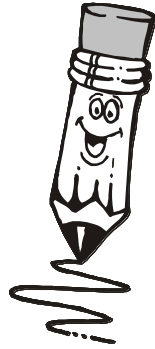
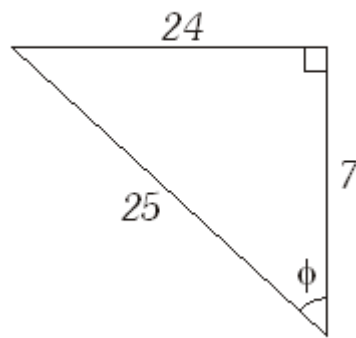


CIRCULO EDUCATIVO

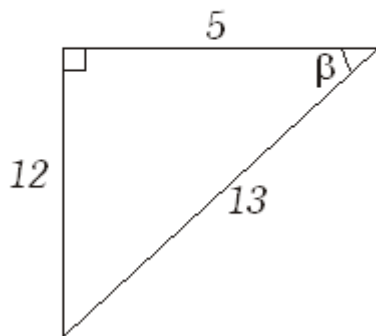
5. Calcular $4\text{tg}\gamma$ si:



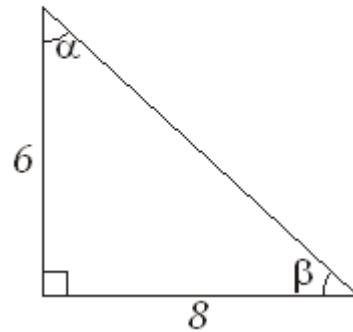
6. Calcular: $10\text{ctg}\phi$ si:



7. Calcular: $P = 2\text{ctg}\beta$

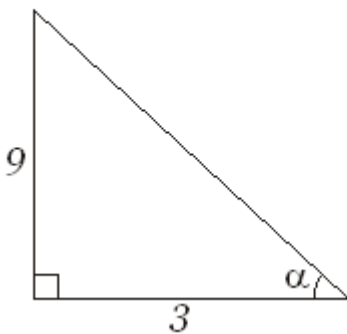


8. Calcular $M = \text{tg}\alpha \cdot \text{ctg}\beta$

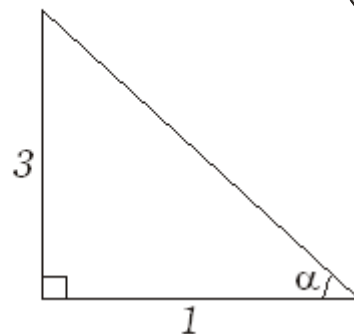


 TRABAJEMOS EN CASA 

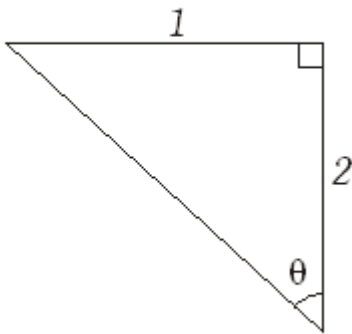
1. Calcular $\text{tg}\theta$ si:



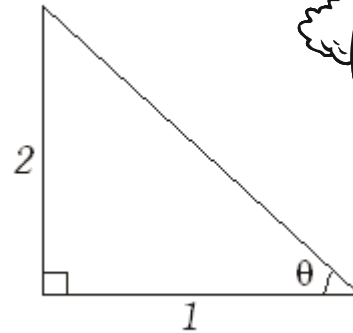
2. Calcular $\text{ctg}\alpha$ si:



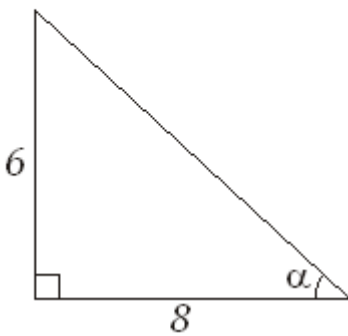
3. Calcular $E = 20 \operatorname{tg} \theta$



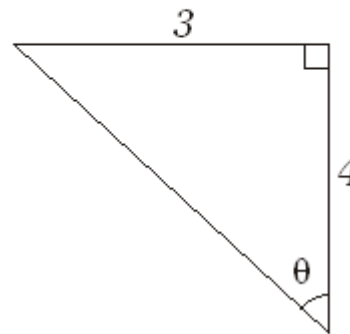
4. Calcular $12 \operatorname{ctg} \alpha$



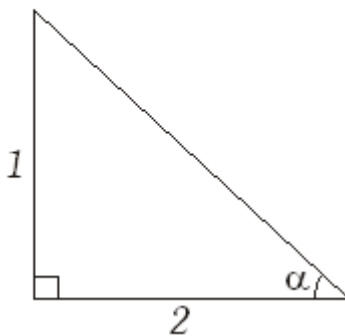
5. Calcular $\operatorname{tg} \alpha \cdot \operatorname{ctg} \alpha$



6. Calcular $N = \operatorname{tg} \theta + \operatorname{ctg} \theta$



7. Calcular $\operatorname{tg}^2 \alpha + \operatorname{ctg}^2 \alpha$



8. Calcular $\operatorname{tg}^2 \theta + \operatorname{ctg}^2 \theta$

