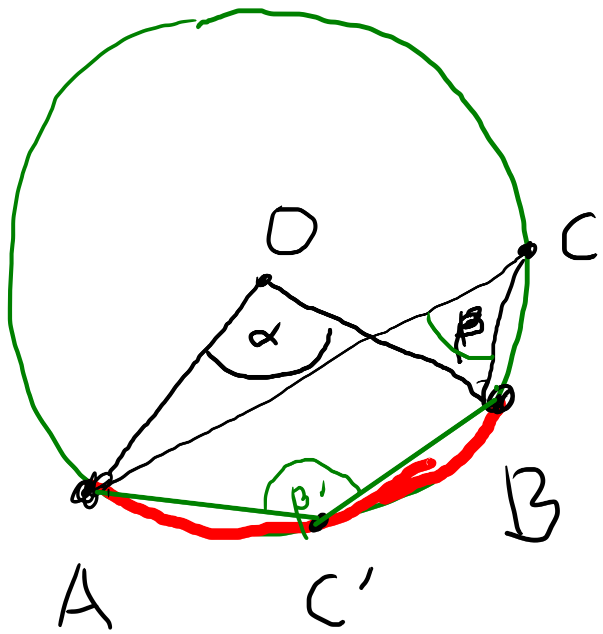
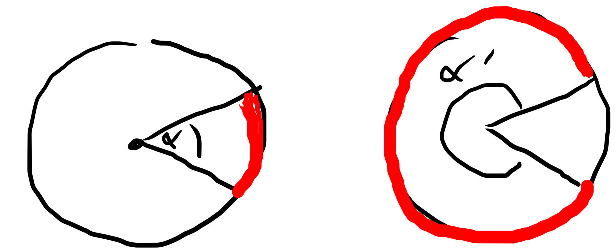
III.20. *In a circle the angle at the center is double the angle at the circumference, when the rays forming the angles meet the circumference in the same two points.* ← los dos ángulos tienen el mismo arco del círculo "en frente".



$\alpha = 2\beta \neq 2\beta'$

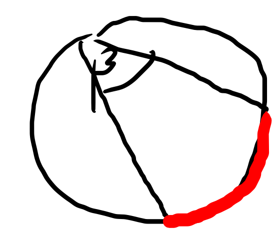
¡¿Qué está pasando?!

Def:



un ángulo central en un círculo y el arco "en frente".

Def:

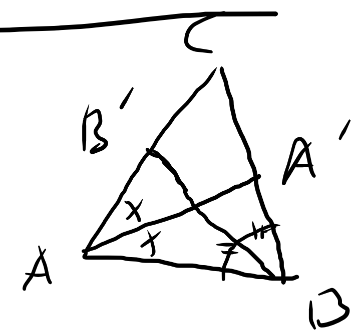


(lo mismo con áng. circunscrito)

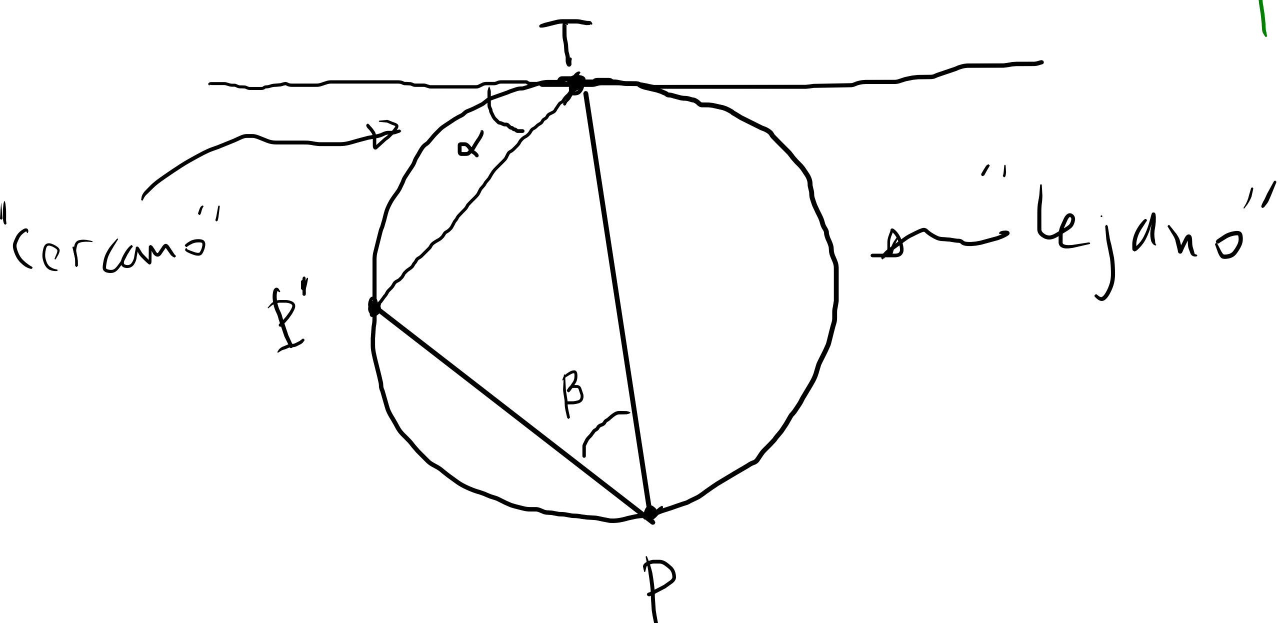
Un reto (MUY opcional)

$AA' = BB' \Rightarrow AC = BC$

bisectrices



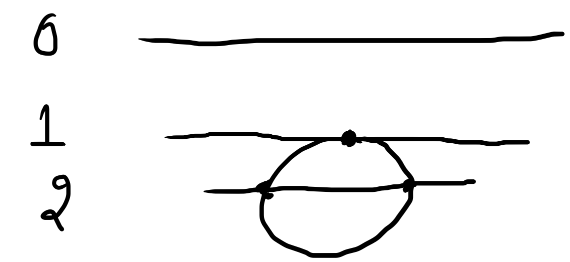
III.32. *If a chord of a circle be drawn from the point of contact of a tangent, the angle made by the chord with the tangent is equal to the angle subtended by the chord at a point on that part of the circumference which lies on the far side of the chord* (e.g., in Figure 1.3c, $\angle OTP' = \angle TPP'$).



P.D. $\boxed{\alpha = \beta}$

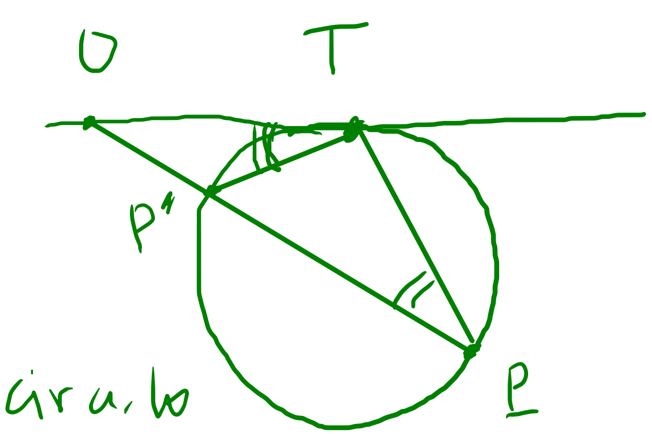
Def: una recta es tangente a un círculo si lo intersecta en 1 solo punto.

int.



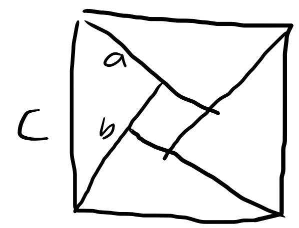
Sugerencia cómo formular III.32 de manera más concisa y precisa:

En un Δ OTP, OT es tang. a un círculo ~~...~~ en T, P y T están en el círculo, y P' es un 2nda int. del círculo con OP. Ent. $\measuredangle OTP' = \measuredangle TPP'$.



T. Pitágoras (cont.)

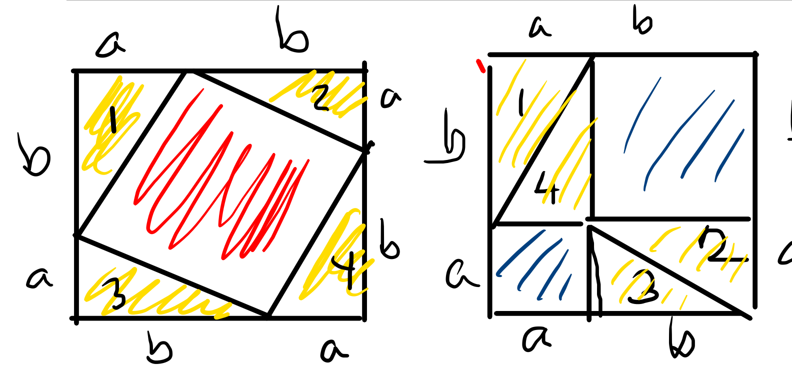
1) China

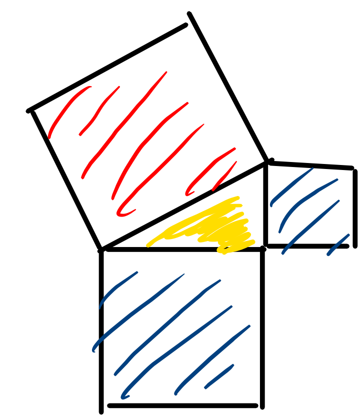


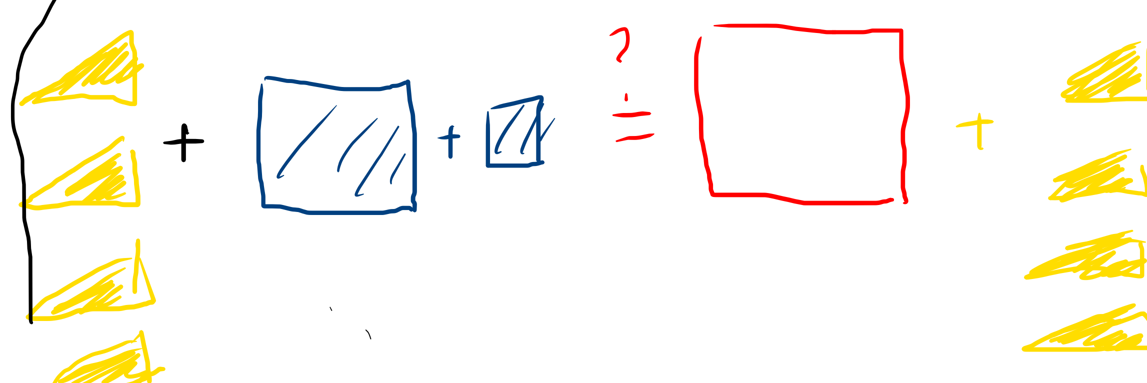
$$c^2 = 4\left(\frac{ab}{2}\right) + (b-a)^2$$

$$\vdots$$

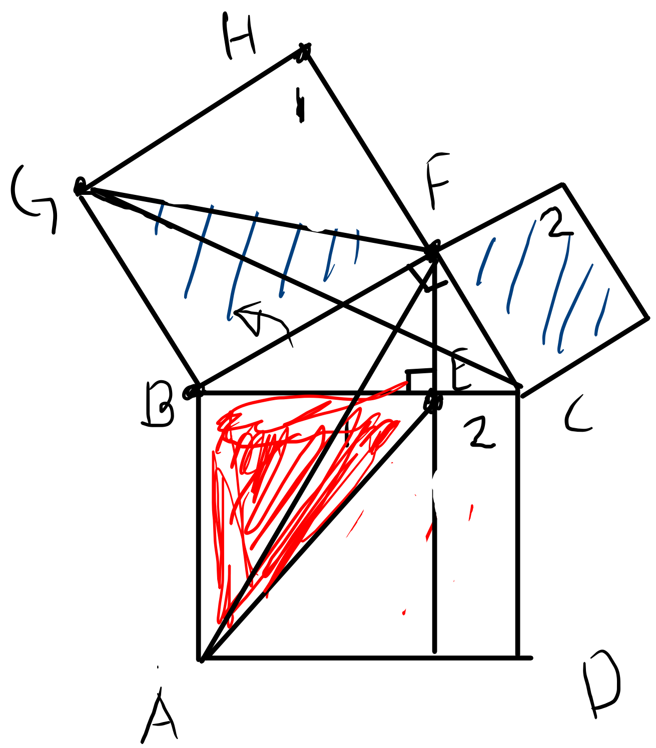
$$c^2 = a^2 + b^2 .$$





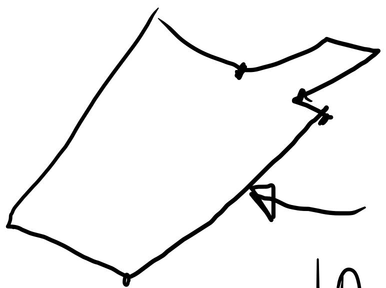


2) Euclides



- $\triangle ABE \overset{e.a}{\sim} \triangle ABF$ (misma base, misma altura)
- $\triangle ABF \cong \triangle CBG$ (LAL)
- $\triangle CBG \overset{e.a.}{\sim} \triangle BGF$ ( ) QED.

③ usando similitud. (coxeter).



10 cm²

1:1000

el área de tu terreno

es $10 \cdot 1000^2 = 10{,}000{,}000 \text{ cm}^2$

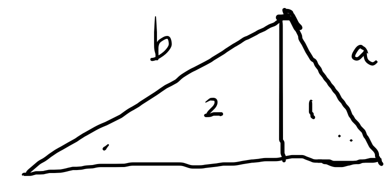
$= 1000 \text{ m}^2$.

reescalar

$\boxed{\text{factor de } 2}$

Por cuanto se multiplica el área?

por factor de 4



$a^2A + b^2A =$

$= c^2A$

$\Rightarrow a^2 + b^2 = c^2$

=