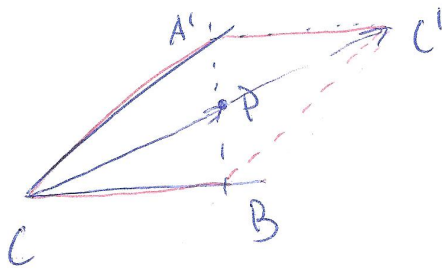


Exercise 1

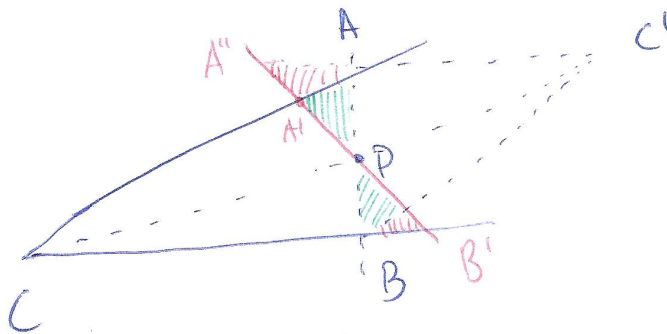
1. I Reflect  $C$  in  $P$  obtaining  $C'$ , creating a parallelogram  $CAC'B$ :



We can see that the area of the triangle  $ACB$  is the solution.

Demonstration:

Let's draw a new line  $A''$  to  $B'$ , which creates two new triangles:



→ Look at the triangle  $CA'B'$ . It's area is smaller than  $CAB$ ?

$$\Delta CA'B' = \frac{\Delta CAC'B + \Delta A'A''A + \Delta B'B''B}{2}$$

$$= \Delta CAB + \frac{\Delta A'A''A + \Delta B'B''B}{2}; \text{ then } \boxed{\Delta CA'B' \geq \Delta CAB}$$

→ Note that the 2 red triangles and the two green triangles have the same area.