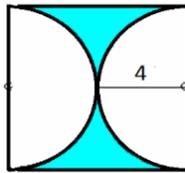


WRITTEN TEST

PART A

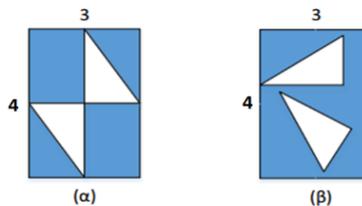
T1. In the figure below, the two semicircles within the square have a radius of 4 cm. Calculate the shaded area. Show the way you have worked.



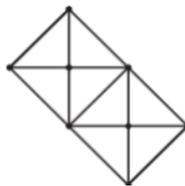
T2. Two equal triangles are placed on a rectangle with sides 3 and 4, as shown in the figures below.

(i) Calculate the shaded area in figure (α).

(ii) In figure (β), the triangles are placed differently. What part of the rectangle do the triangles cover? Please explain the way you worked.

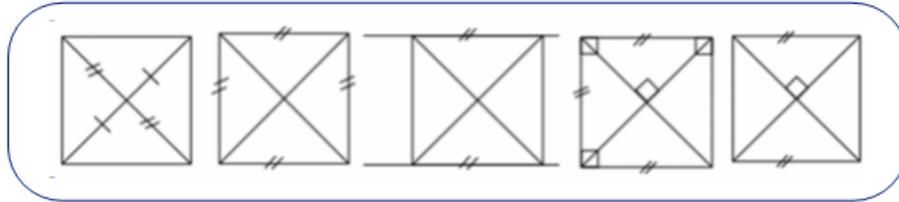


T3. How many triangles are there in the figure below?

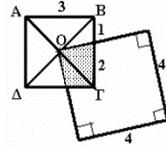


T4. In the figure below, students are asked two questions:

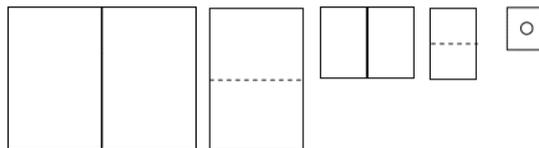
- What information is given for each one of the figures?
- Please state, where possible, the exact nature of the quadrilateral.



T5. In the following figure, O is the point of intersection of the diagonals of the square $AB\Gamma\Delta$. Find the area of the shaded region.



T6. Maria folds a piece of paper in half and then repeats the same process 3 times. Then, she opens a hole on the piece of paper. If she unfolds the piece of paper, how many holes will the paper have? Please show your working and explain how you reached your answer.



PART B

TR1. Could we argue that a triangle is isosceles, if two of its heights are equal?

TR2. Could we argue that a triangle is isosceles, if two of its medians are equal?

TR3. Could we argue that a triangle is isosceles, if two of its bisectors are equal?

Compare the three questions on the basis of how difficult it is for students to prove each one of them and explain the reasons why, if any, there is a difference in difficulty. Which didactic concepts intervene?