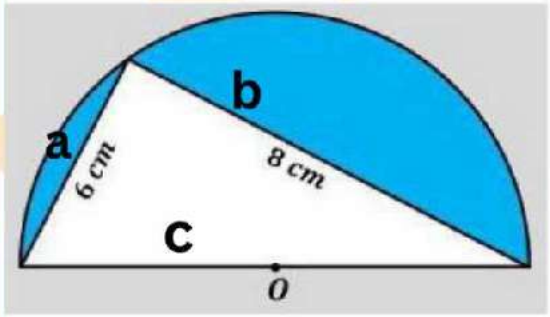
math League :
the solutions of the 2nd week

: Calculating the area of a right triangle S'=(axb)/2 S'=(6×8)/2→S'=24



Calculating the area of the blue part:

Calculating the radius of a circle: We have a right triangle

According to the Pythagorean property we find:

$a^2+b^2=c^2 \rightarrow 6^2+8^2=100$

$c=\sqrt{100}=10 \rightarrow r=10/2=5.$

Calculate the area of a semicircle

$S=[r^2\times\pi]\backslash 2 \; . \; S=[5^2\times\pi]\backslash 2 \; . \; S \approx 39.25$

S"=S-S' S"=39.25-24-S"=15.25 15.25cm²: The area of the blue part is

---

1- Calculate the length kd

We know that the area of the rectangle is: xb

Ed=10/2=5kd =Ed -ek=5-3=2

2-Calculating length ad

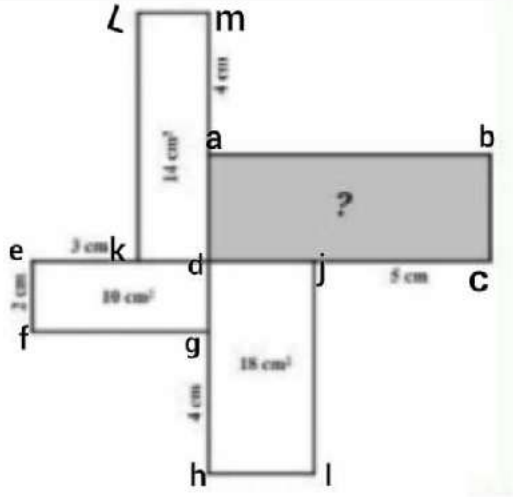
md =14/2=7 →ad=md-ma=7-4=3

3- Calculating length

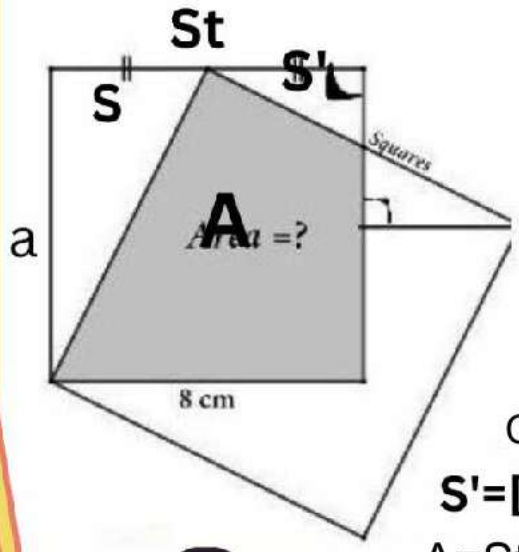
dh=4+2=6→dj=18/6=3

So we have 3 = ad and 8 = 3 + 5 = dc

S=ad×dc=8×3=24



The area of rectangle abcd is 24cm



Calculate the area of a square

$St=a^2=8^2=64$

Calculate the area of a large triangle

$S=(a\times a/2)/2=(8\times 4)/2=16cm^2$

Calculate the area of a small triangle

$S'=[(a/2)(a/4)]/2=(4\times 2)/2=4cm^2.$

A=St-(S+S')=64-20-44cm Hence

The area of the shaded part is: 44cm