

Area

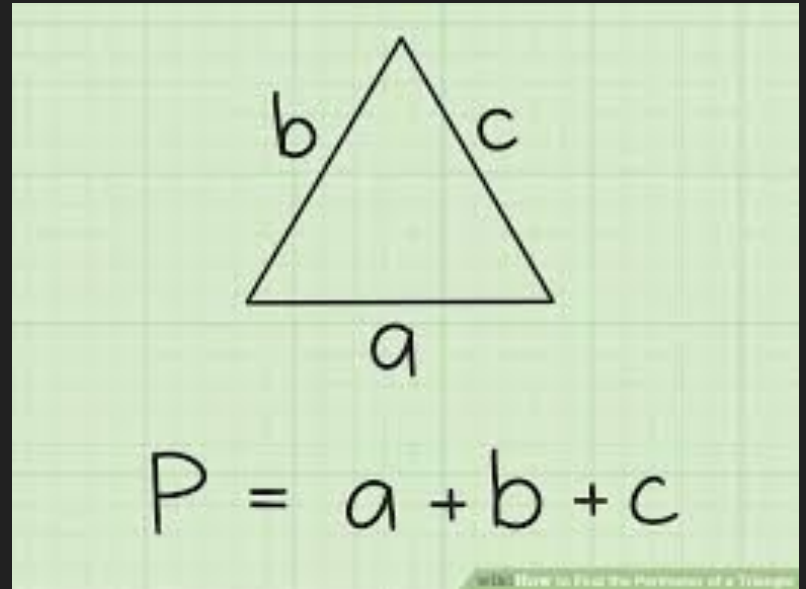
Without pencils and paper, try to solve each of the following.  
Remember your strategies so you can share with the class.

- $4 \times 3$
- $4 \times 30$
- $40 \times 30$
- $40 \times 300$
- $4,000 \times 30$

# Perimeter of a Triangle

Perimeter is the the measure around the outside of a shape.

$$P = a + b + c$$



Area is given in square units, like  $\text{cm}^2$  or  $\text{in}^2$ . The image below has an area of  $1 \text{ cm}^2$ .

**Why do we call it a square centimeter?**



If you divide 1 cm in half, you have the image below:

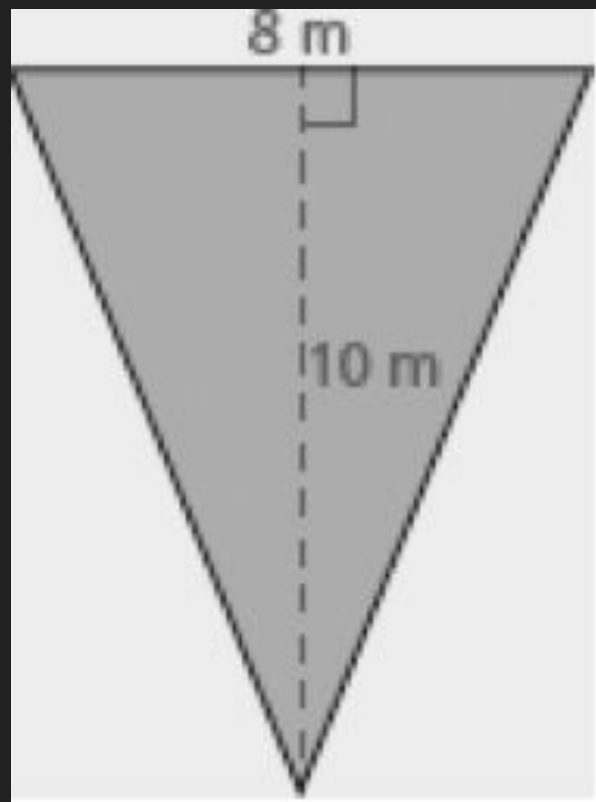


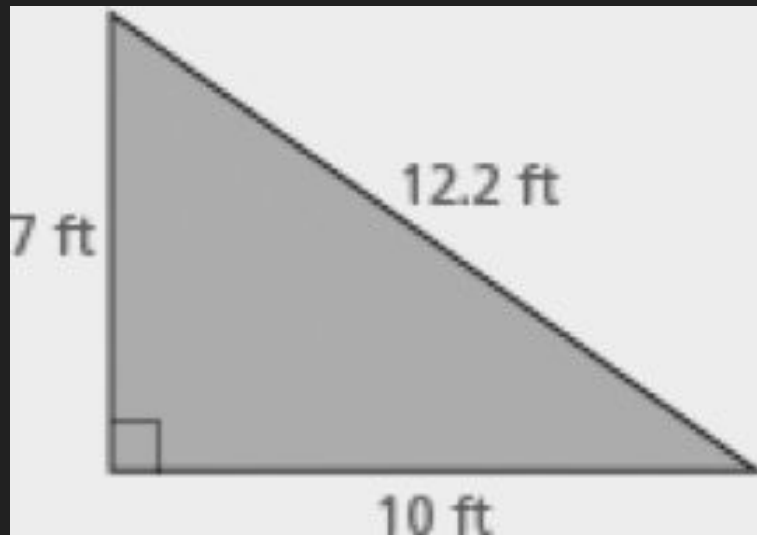
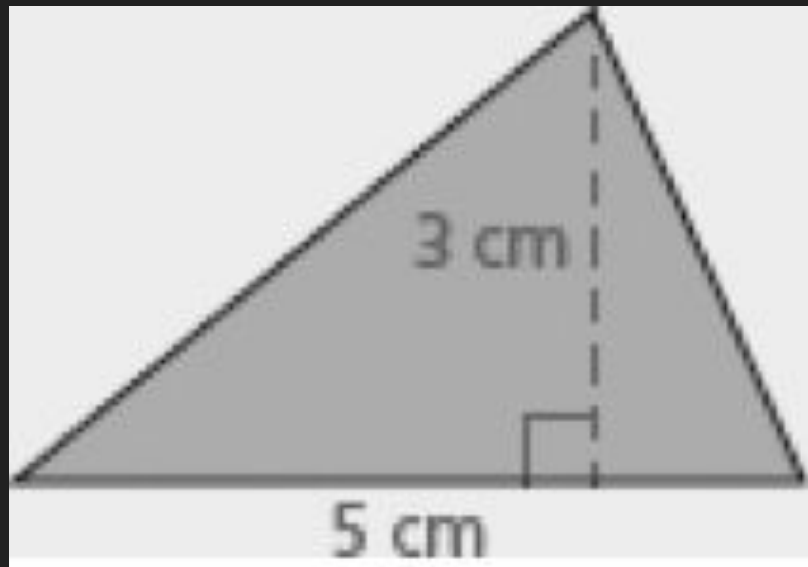
What is the area of each triangle?

Area of a Triangle=  $\frac{1}{2}$  base x height

$$A = \frac{1}{2} bh$$

<https://www.khanacademy.org/math/basic-geo/basic-geo-area-and-perimeter/area-triangle/v/intuition-for-area-of-a-triangle>



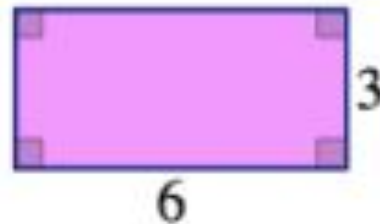
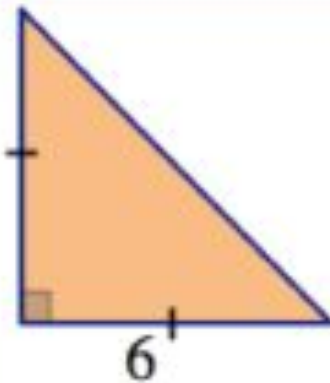
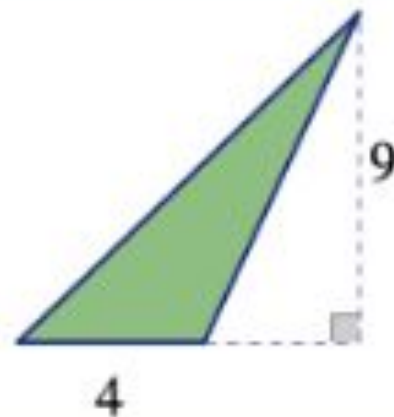
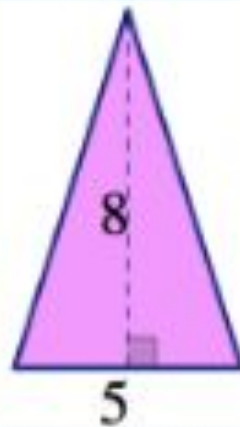




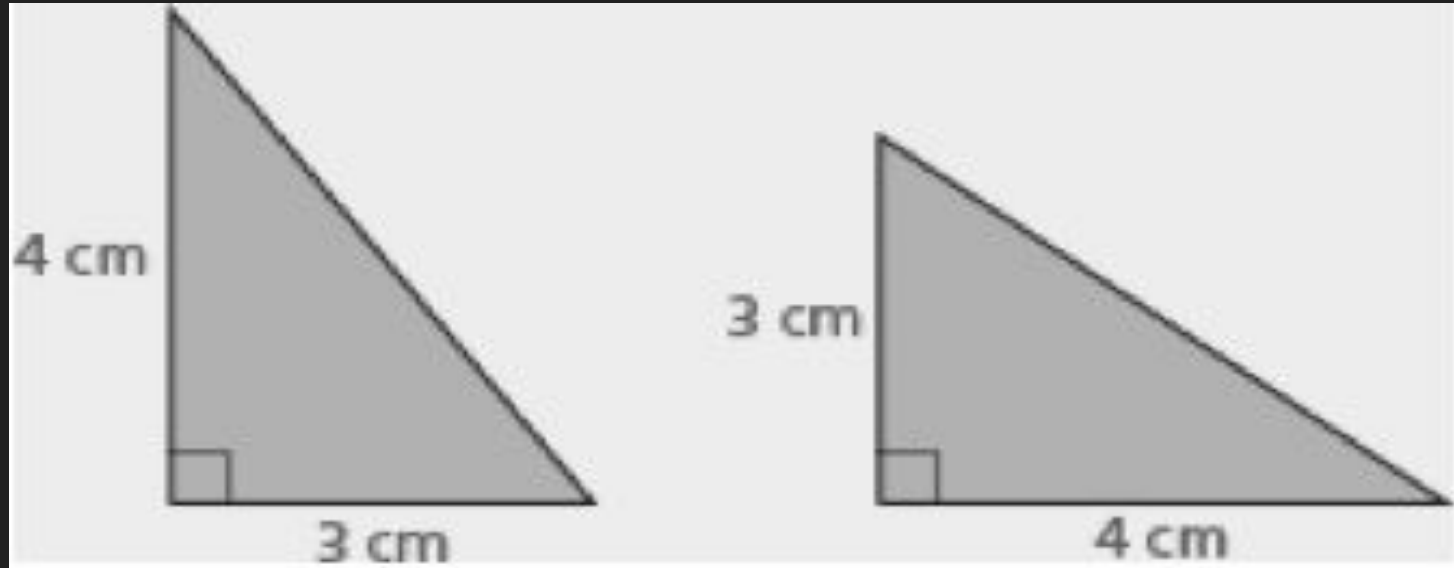
# Area of Triangle

<https://www.youtube.com/watch?v=xCdxURXMdFY>

Which one doesn't belong?



Do these triangles have the same area?



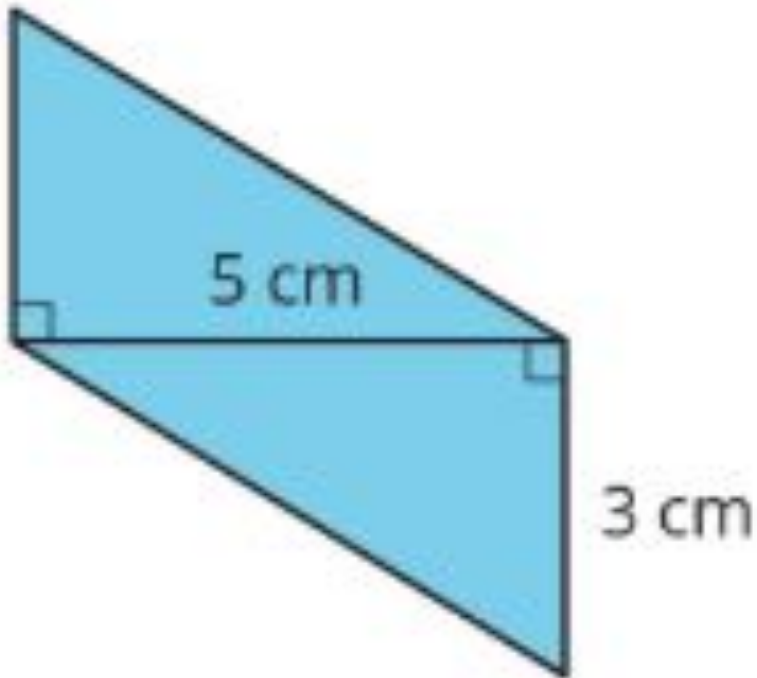
# Area of Composite Figures

Composite figure- A figure or shape that can be divided into more than one of the basic figures

<https://www.khanacademy.org/math/basic-geo/basic-geo-area-and-perimeter/area-trap-composite/v/area-breaking-up-shape>

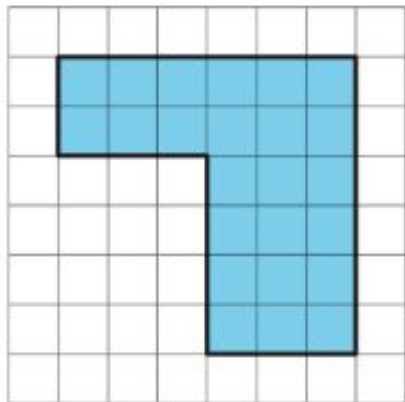
A

3 cm

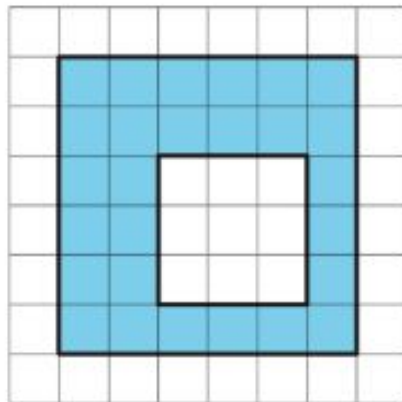


Each grid square is 1 square unit. Find the area, in square units, of each shaded region without counting every square. Be prepared to explain your reasoning.

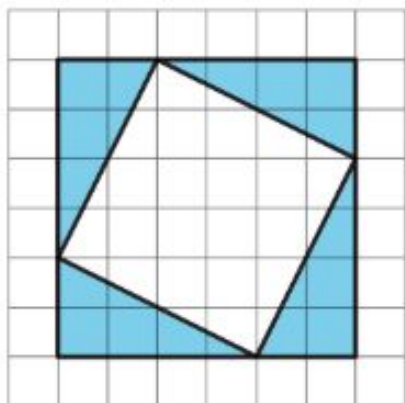
A



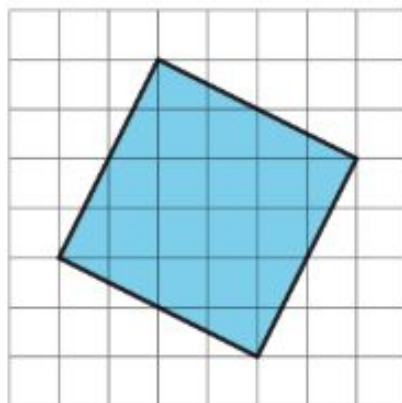
B



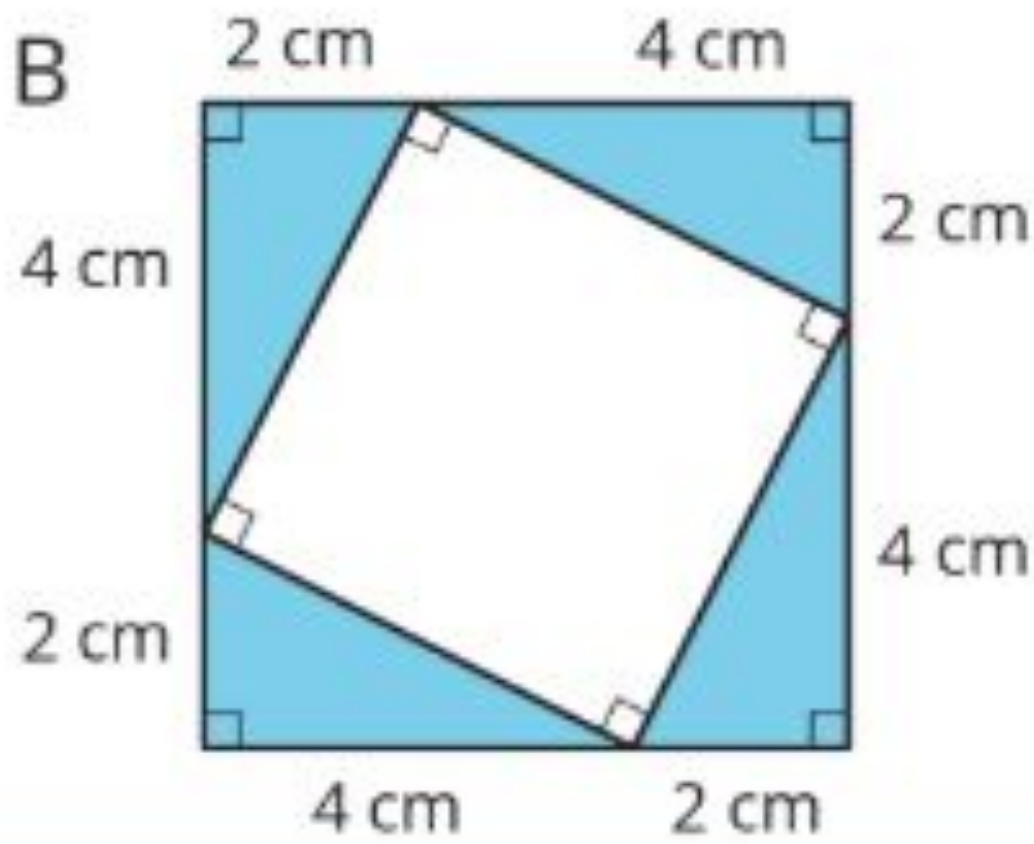
C



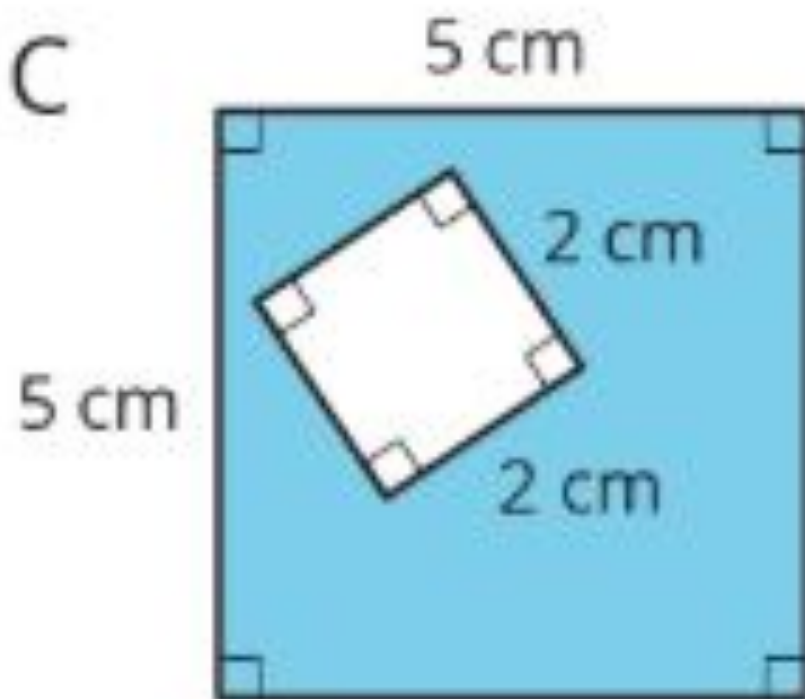
D



B



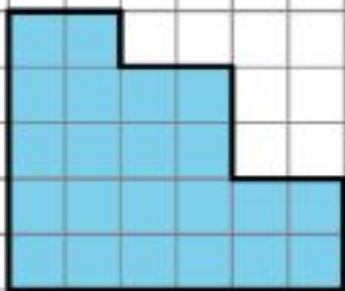
C



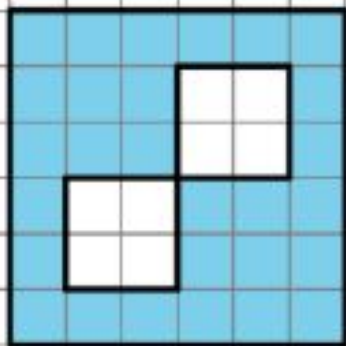


Find the area of each shaded region. Show your reasoning.

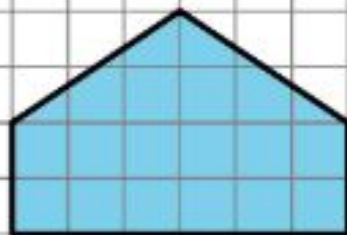
A



B

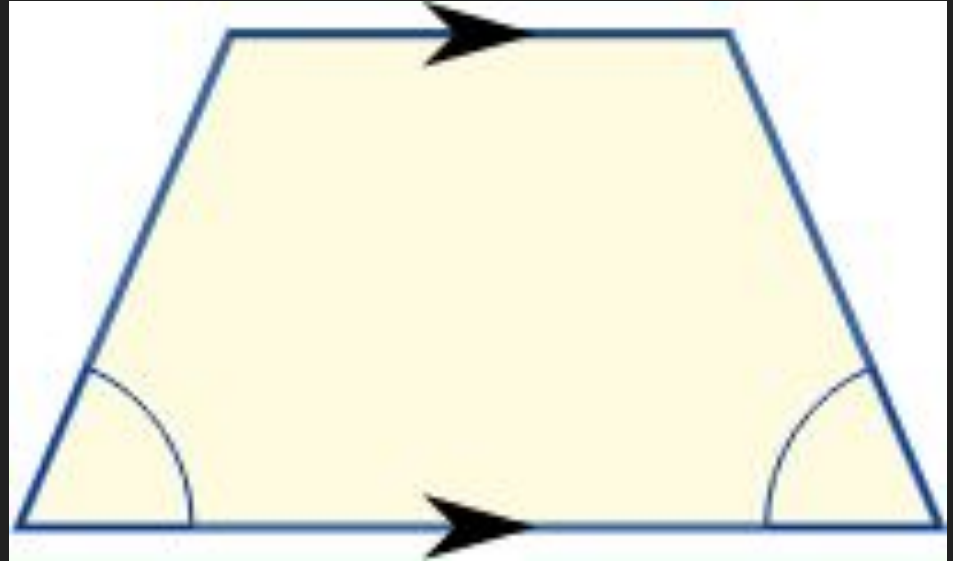


C



## Area of a Trapezoid

Trapezoid- a quadrilateral with only one pair of parallel sides.

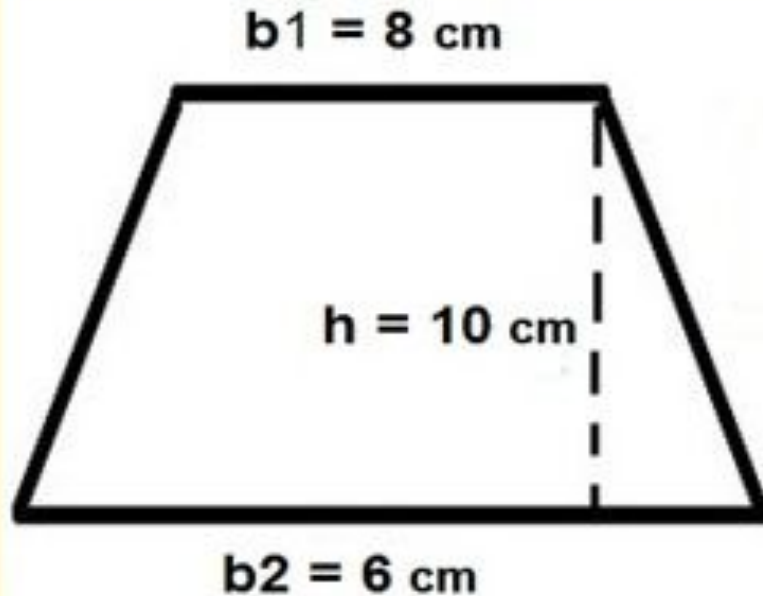


# Formula for Area of a Trapezoid

Trapezoid

$$\text{Area} = \frac{1}{2} h (b_1 + b_2)$$

# Example



Trapezoid

$$\begin{aligned} \text{Area} &= \frac{1}{2} h (b_1 + b_2) \\ &= \frac{1}{2} \times 10 (8+6) \\ &= 5 \times 14 \\ &= 70 \text{ cm}^2 \end{aligned}$$

Try together!

