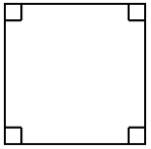
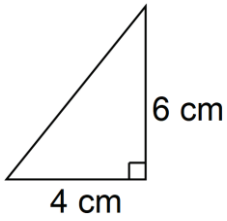
Problem 1

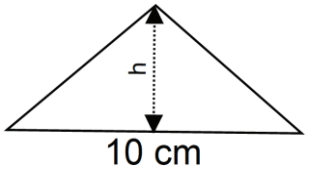
Calculate the area of the square



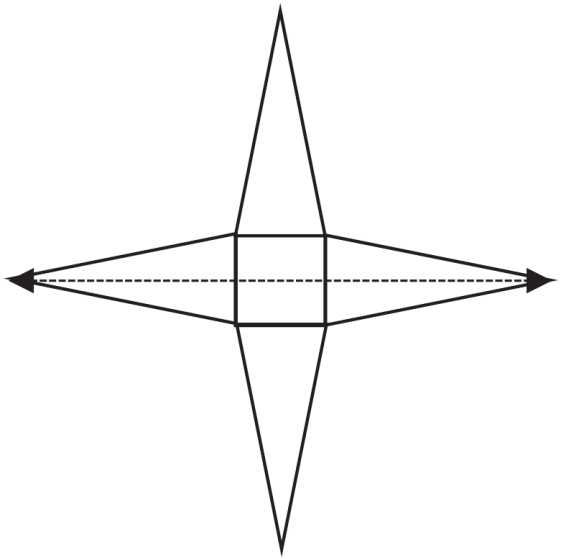
Calculate the area of the triangle



If the triangle has an area of 40 cm² calculate the height



The logo shown below has a total area of 125 cm² and the square has side length 5 cm. Calculate the width of the logo



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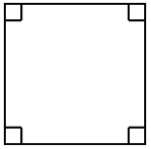
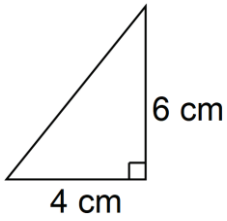


6 x 6 =
36 cm²

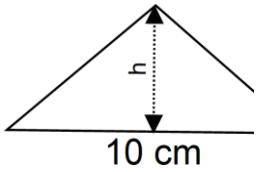
Calculate the area of the triangle



½ x 6 x 4

= 12 cm²

If the triangle has an area of 40 cm² calculate the heiaht



½ x 10 x h = 40

5h = 40

h = 8 cm

The logo shown below has a total area of 125 cm² and the square has side length 5 cm. Calculate the width of the logo

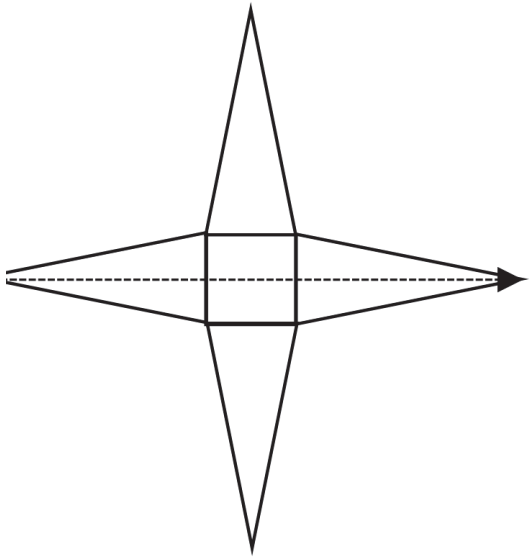
5 x 5 = 25 cm²

4 triangles have an area of 100cm²

1 triangle has an area of 25 cm²

½ x 5 x h = 25

h = 10 cm



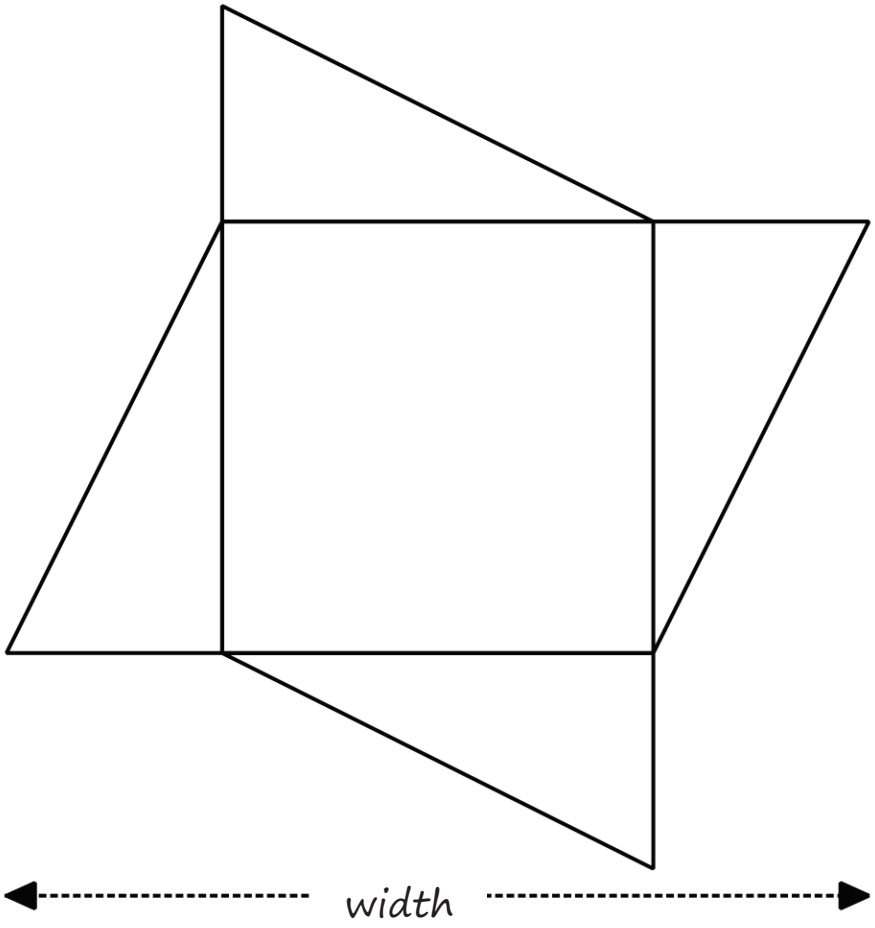
Total width

10 cm + 5 cm + 10 cm

= 25 cm

PROBLEM 1A

The logo shown below has a total area of 112 cm². The square has a side length of 8 cm and all of the triangles are identical. Calculate the width of the logo.



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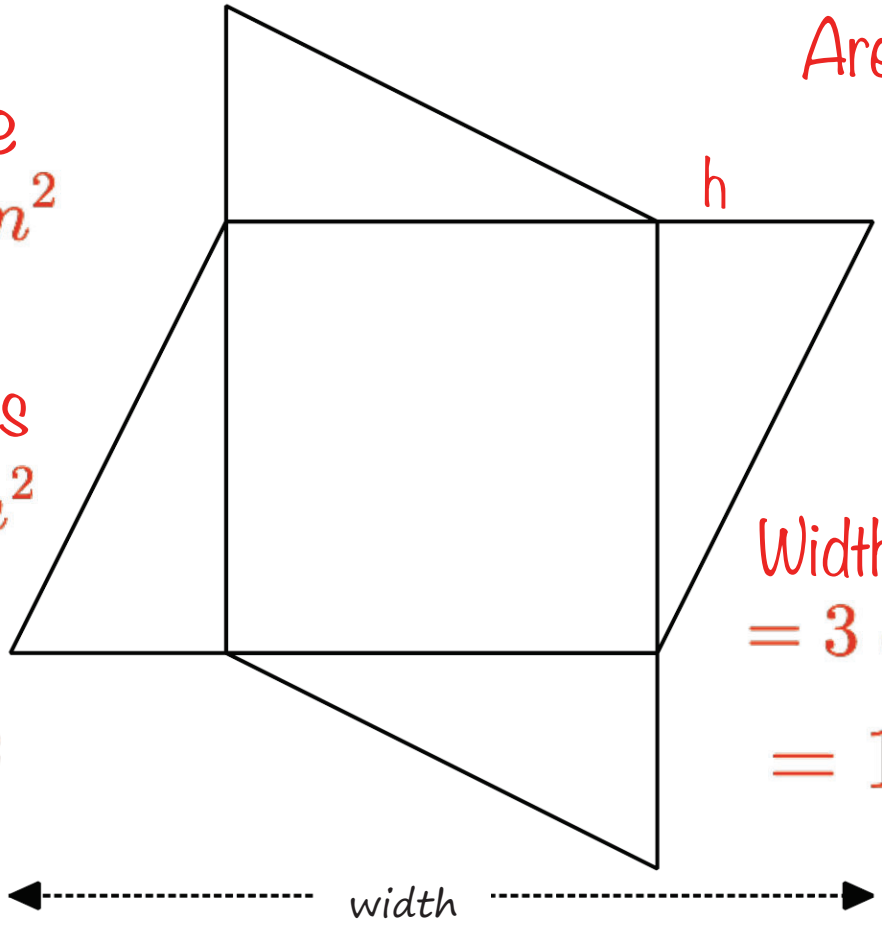


Area of the square

$$8 \times 8 = 64\ cm^2$$

Area of the triangles

$$112 - 64 = 48\ cm^2$$

Area of one triangle

$$48 \div 4 = 12\ cm^2$$

Area of a triangle

$$\frac{1}{2} \times 8 \times h = 12$$

$$h = 3\ cm$$

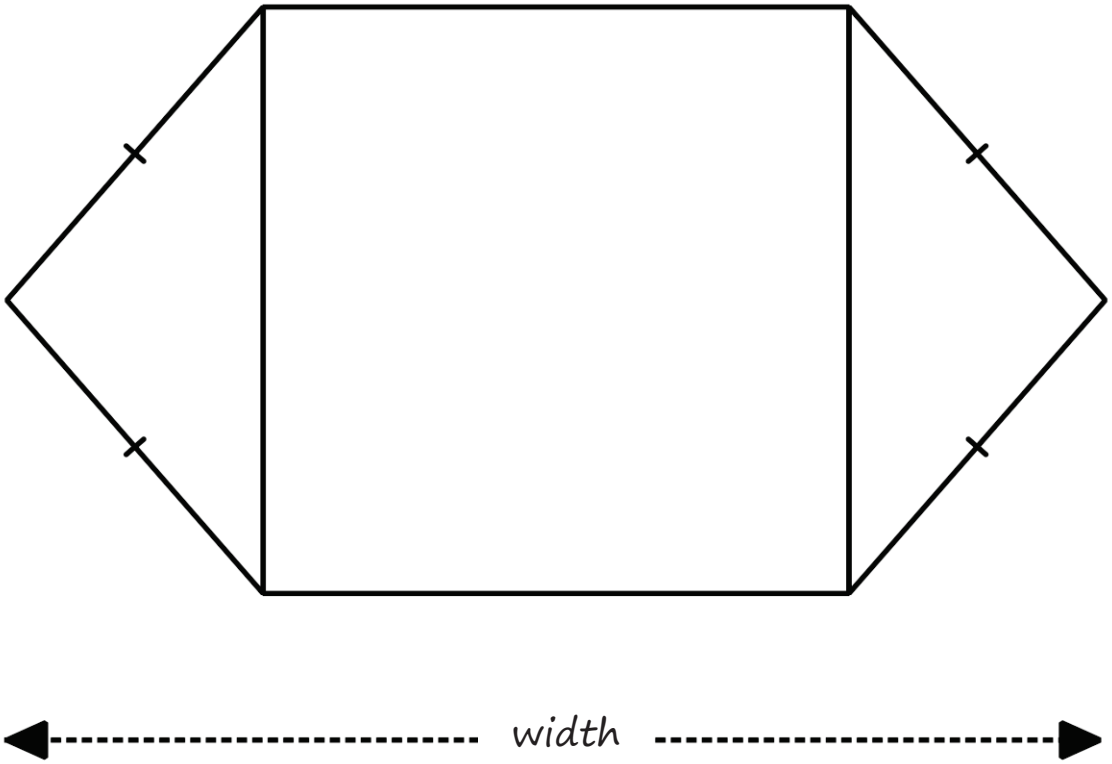
Width

$$= 3\ cm + 8\ cm + 3\ cm$$

$$= 14\ cm$$

PROBLEM 1B

The logo shown below has a total area of 204 cm². The square has a side length of 12 cm Calculate the width of the logo.



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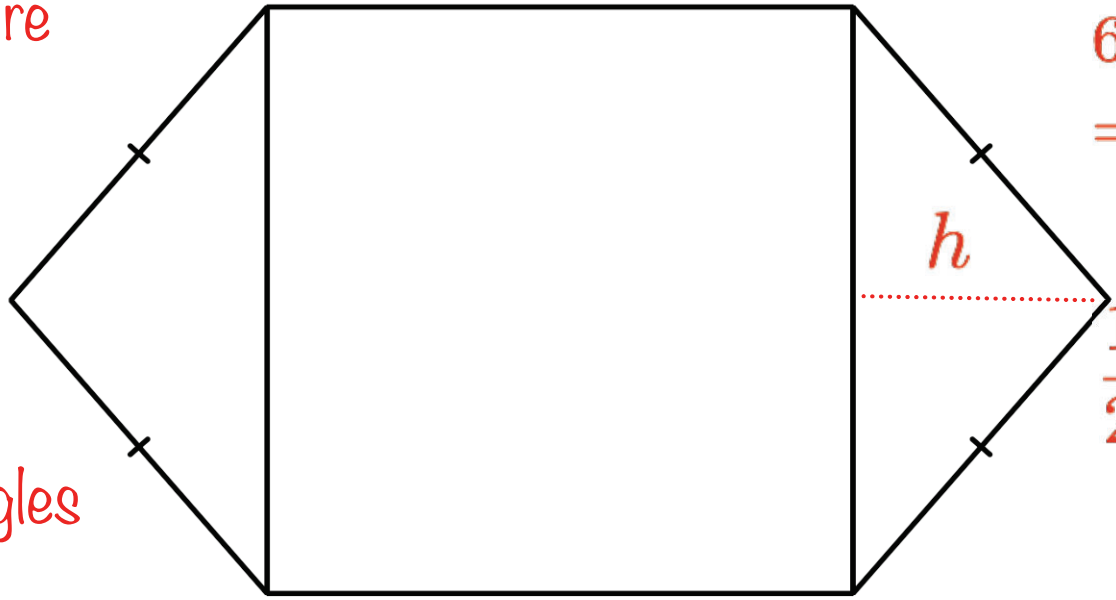


Area of the square

12×12

$= 144\ cm^2$

Area of the triangles

$204 - 144$

$= 60\ cm^2$

Area of one triangle

$60 \div 2$

$= 30\ cm^2$

$\frac{1}{2} \times 12 \times h = 30$

$h = 5\ cm$

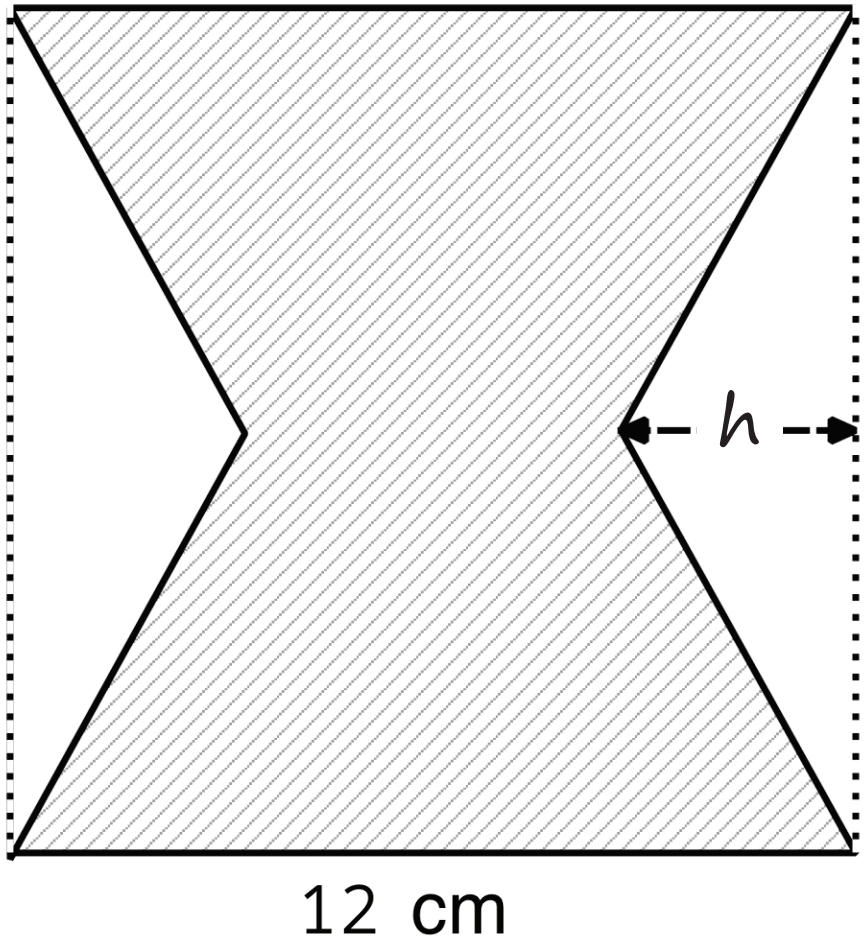
Width

$5 + 12 + 5$

$= 22\ cm$

PROBLEM 1C

The logo shown below is a made from a square with 2 congruent isosceles triangles removed. It has a total area of 108 cm^2. Calculate h.



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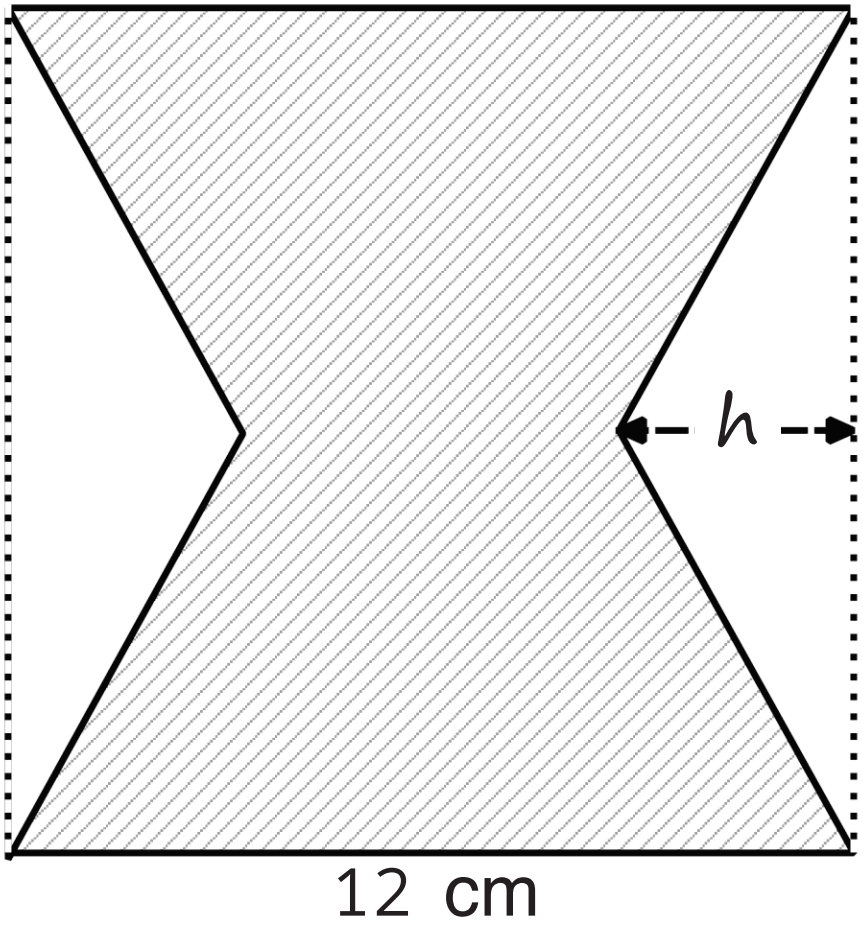


Area of the full square

12×12

$= 144\ cm^2$

Area of the triangles

$144 - 108$

$36\ cm^2$

Area of one triangle

$36 \div 2 =$

$= 18\ cm^2$

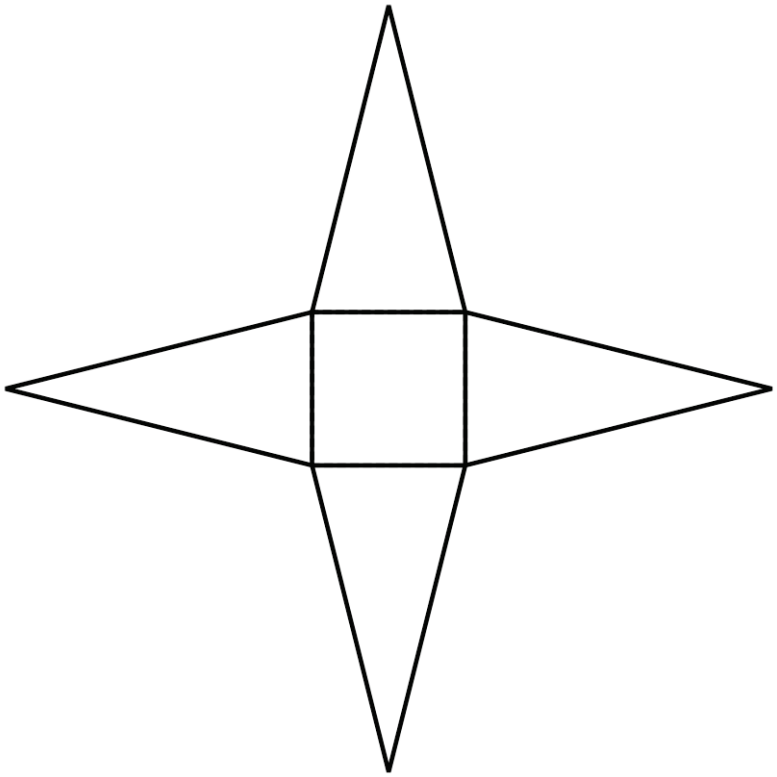
$\frac{1}{2} \times 12 \times h = 18$

$h = 3\ cm$

PROBLEM 1D

The logo shown below is a made from a square with side length 6 cm and 4 congruent isosceles. It has a total area of 156 cm^2.

Calculate the perimeter of the logo.



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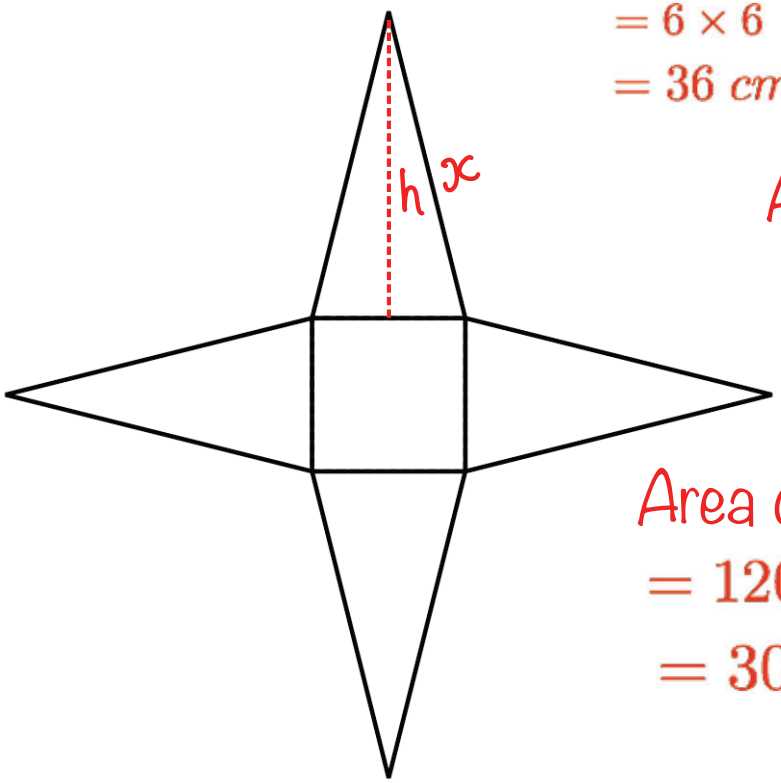

Area of the square

$= 6 \times 6$

$= 36\ cm^2$

Area of the triangles

$156 - 36$

$= 120\ cm^2$

Area of a triangle

$= 120 \div 4$

$= 30\ cm$

$\frac{1}{2} \times 6 \times h = 30$

$h = 10\ cm$

$x^2 = 10^2 + 3^2$

$x = \sqrt{109}$

$= 10 \cdot 44$

Perimeter

$8 \times 10 \cdot 44$

$= 83.52\ cm$

PROBLEM 1A

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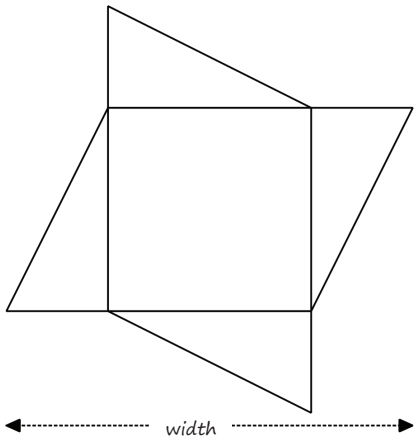

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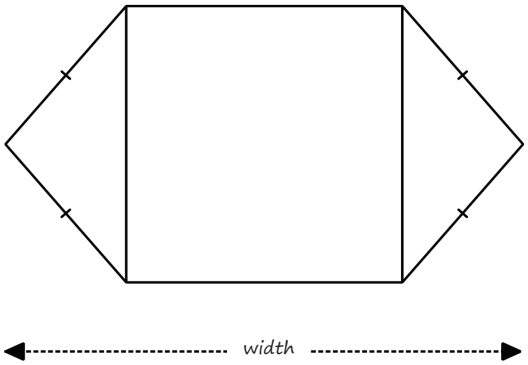

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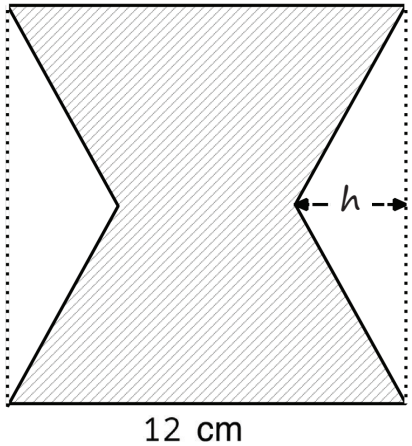

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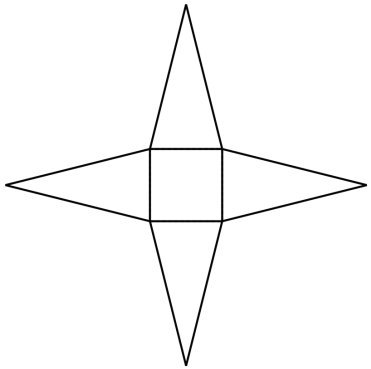

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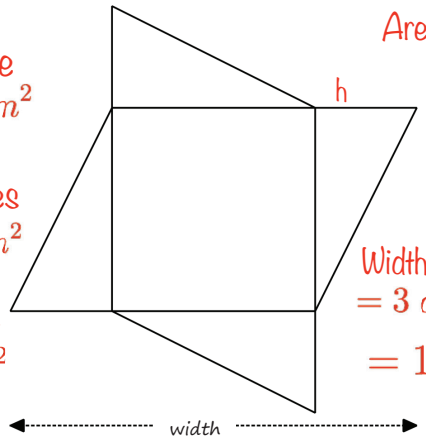

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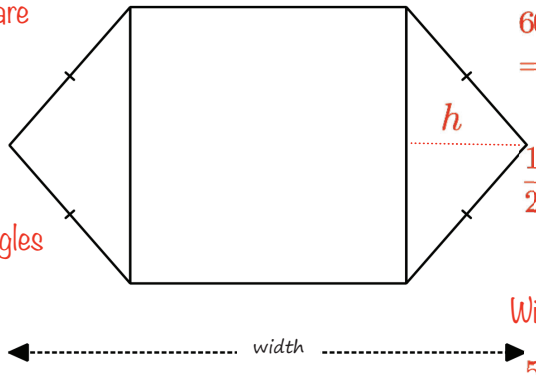

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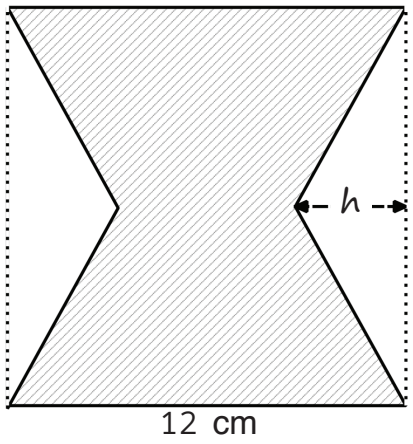

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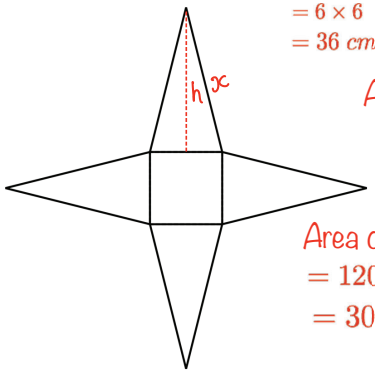

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