Finance101

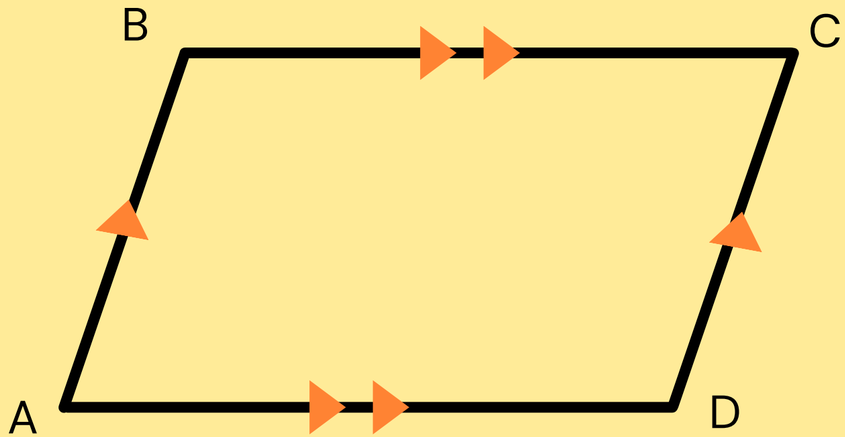
Your guide to Teen Finance

TODAY, LEARN MORE ABOUT:

- Parallelogram
- Trapezoid
- Perimeter of Parallelogram and Trapezoid
- Area of Parallelogram and Trapezoid

Parallelogram

It is a quadrilateral with two pairs of parallel sides.

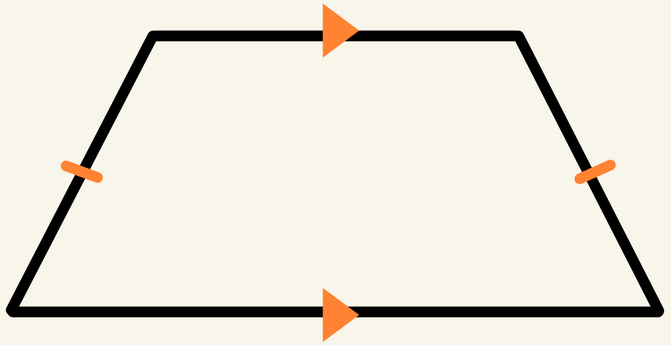


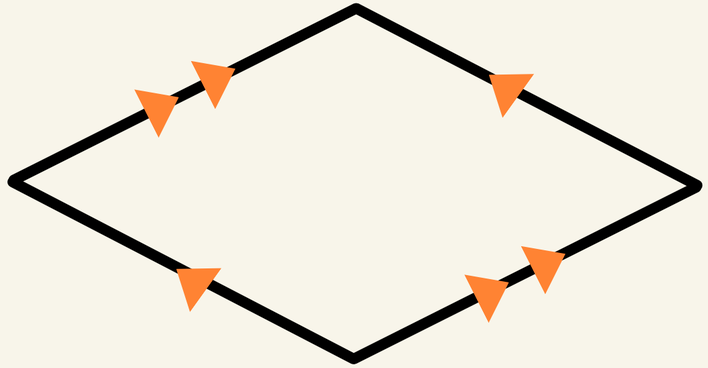
$\overline{AB}$ is parallel to $\overline{CD}$

$\overline{BC}$ is parallel to $\overline{DA}$

CONCEPT CHECK

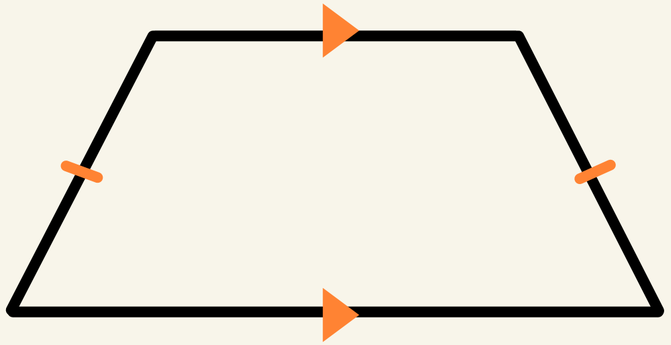
Which of the two figures below is a parallelogram?



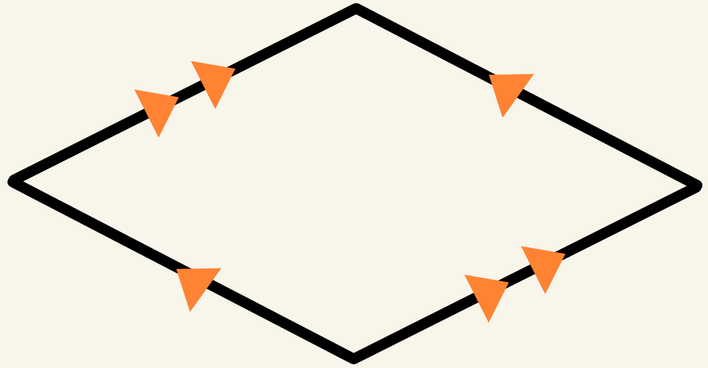


DID YOU GET IT RIGHT?

Which of the two figures below is a parallelogram?



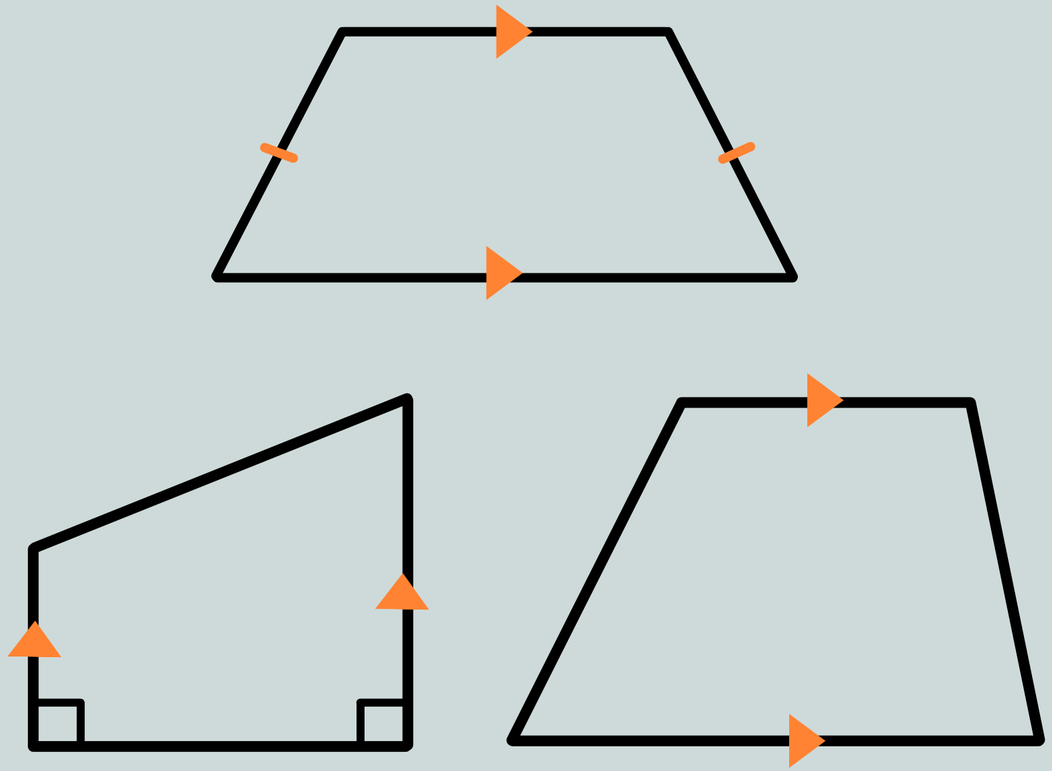
This is not a parallelogram because it has only one pair of parallel sides.



This is a parallelogram because it has two pairs of parallel sides.

Trapezoid

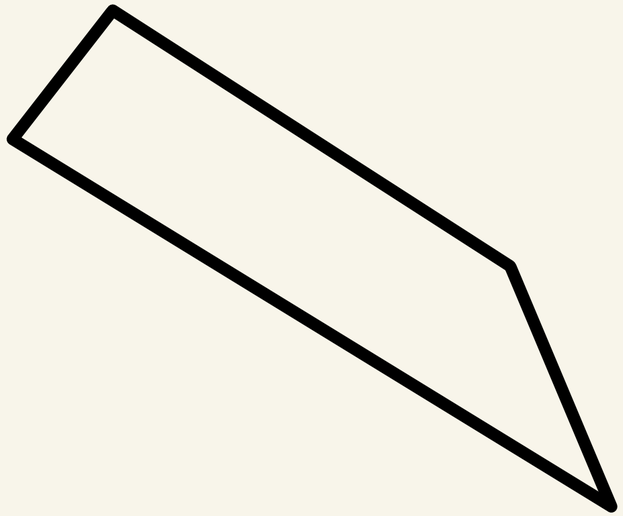
It is a quadrilateral with one pair of parallel sides.

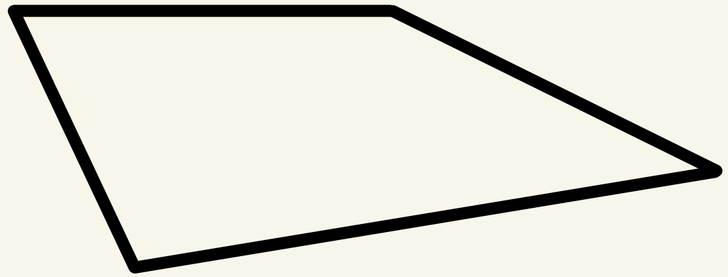


Each figure has one pair of parallel sides.

CONCEPT CHECK

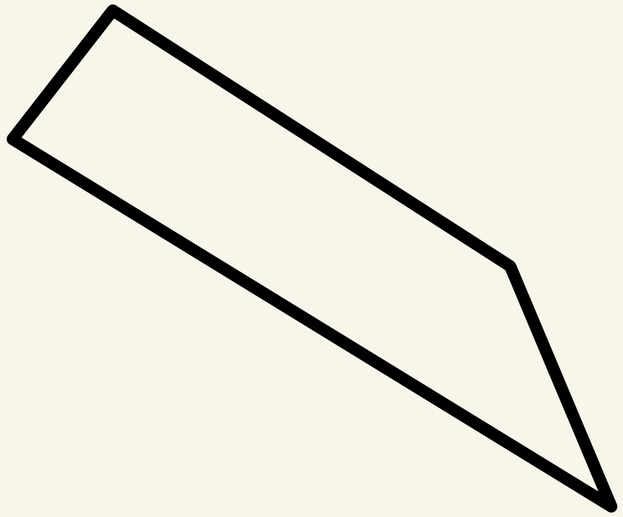
Which of the two figures below is a trapezoid?



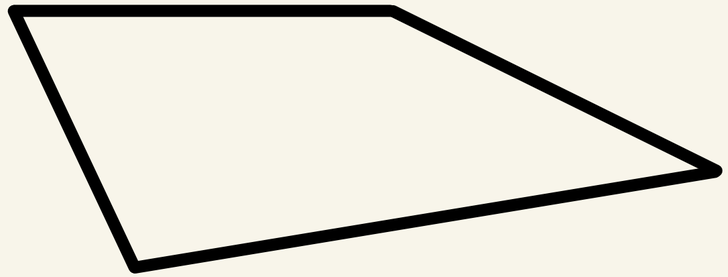


HOW DID YOU DO?

Which of the two figures below is a trapezoid?



This is a trapezoid because it has one pair of parallel sides.



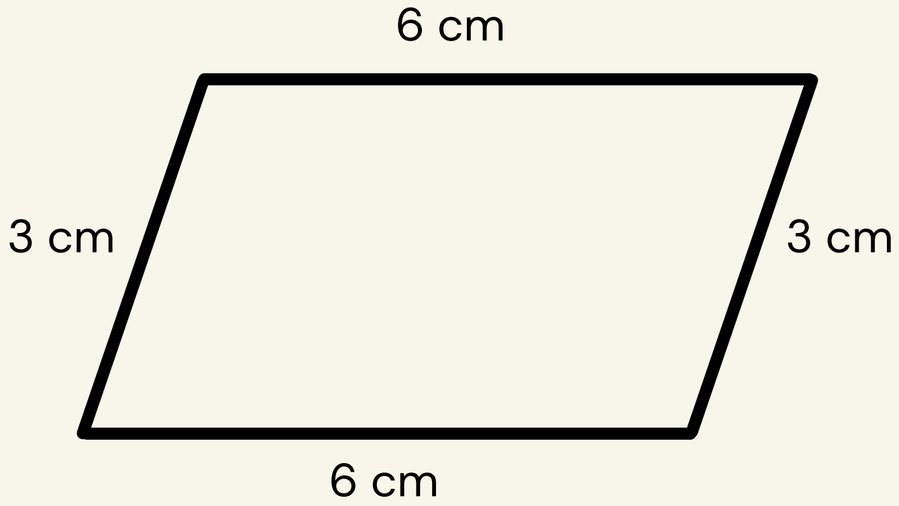
This is not a trapezoid because it has no parallel sides.

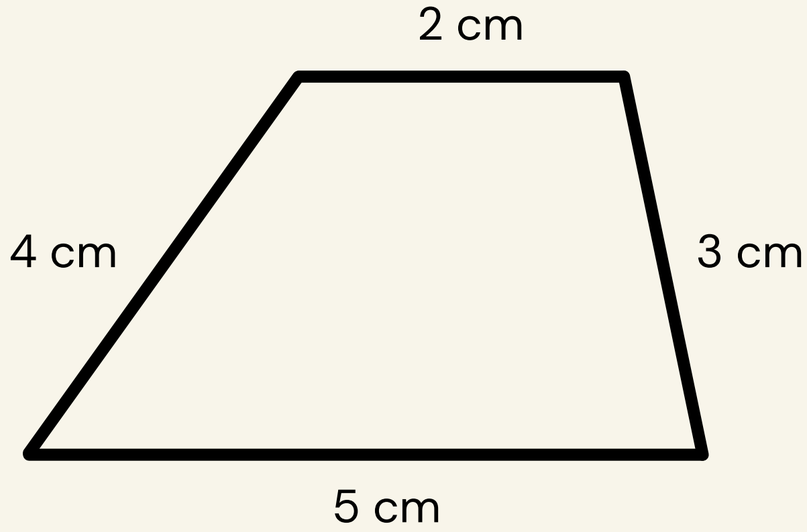
What is perimeter?

It refers to the distance around the polygon.

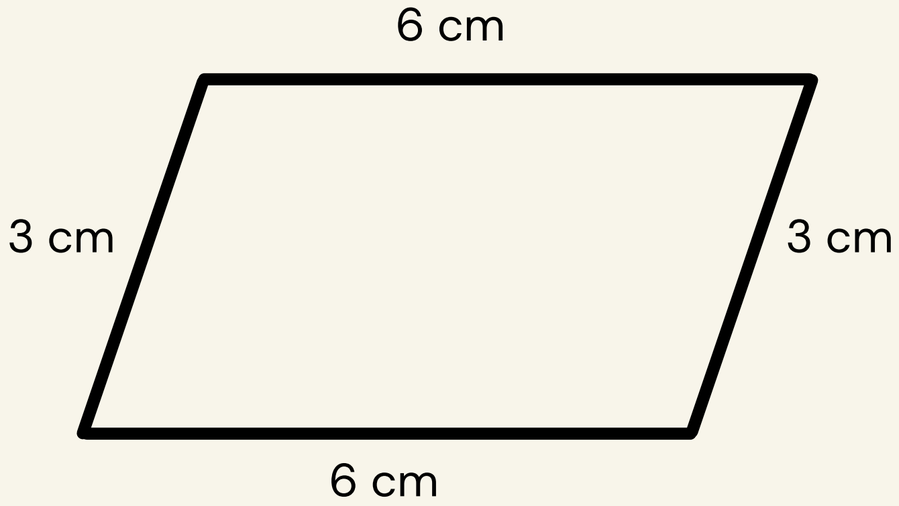
To find the perimeter, simply add the lengths of all the sides.

Let's try to find the perimeter of the figures below.





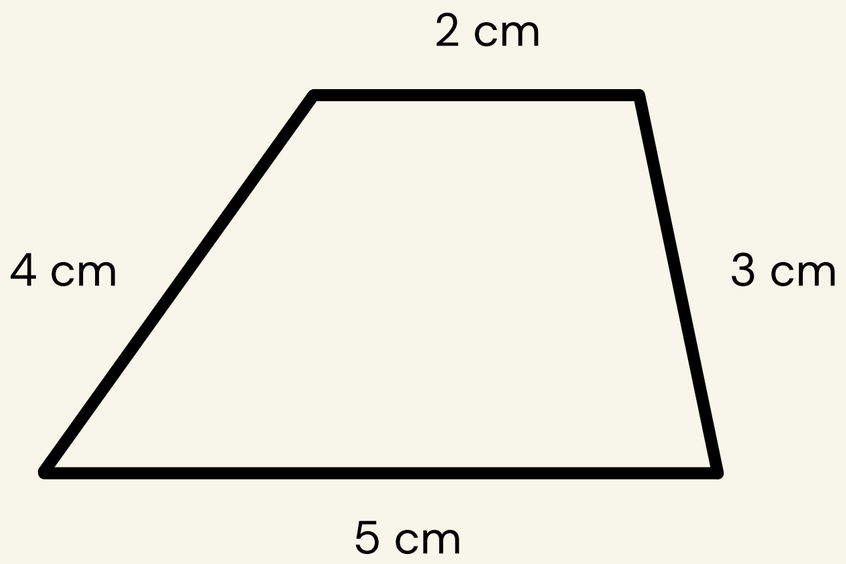
How did you find the perimeter of the parallelogram?



$$P = 6cm + 3cm + 6cm + 3cm$$

$$P = 18cm$$

How did you find the perimeter of the trapezoid?



$$P = 2cm + 3cm + 5cm + 4cm$$

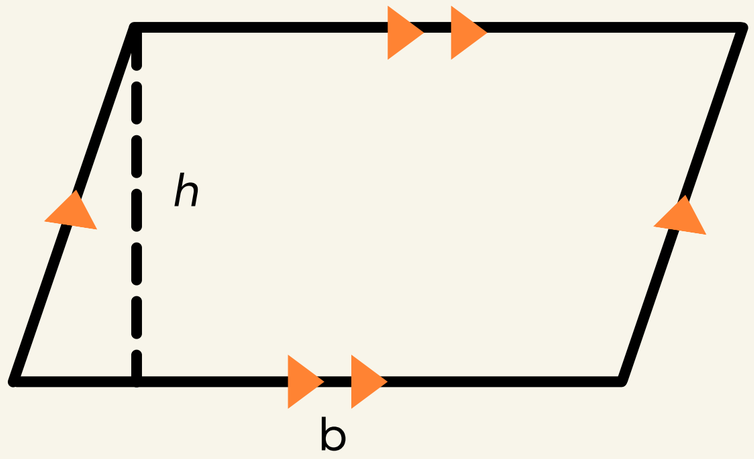
$$P = 14cm$$

What is area?

It refers to the amount of space enclosed by a two-dimensional geometric figure.

AREA OF A PARALLELOGRAM

Calculate the area of a parallelogram using:

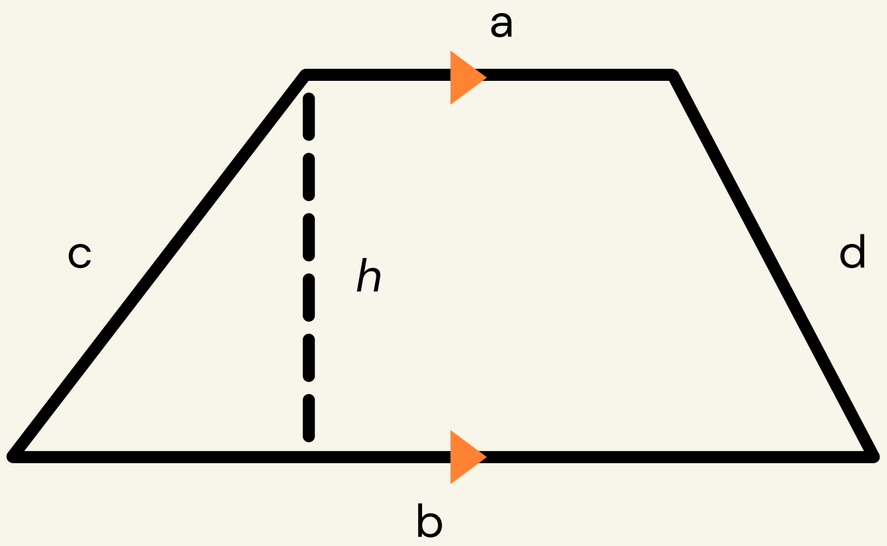


Area = base x height

A = bh

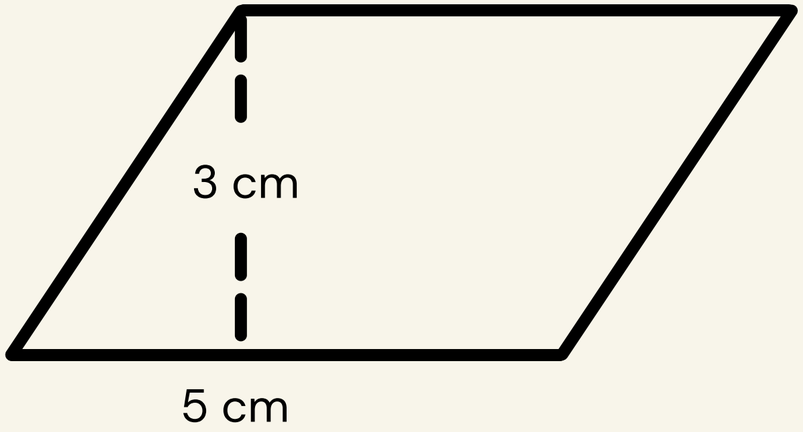
AREA OF A TRAPEZOID

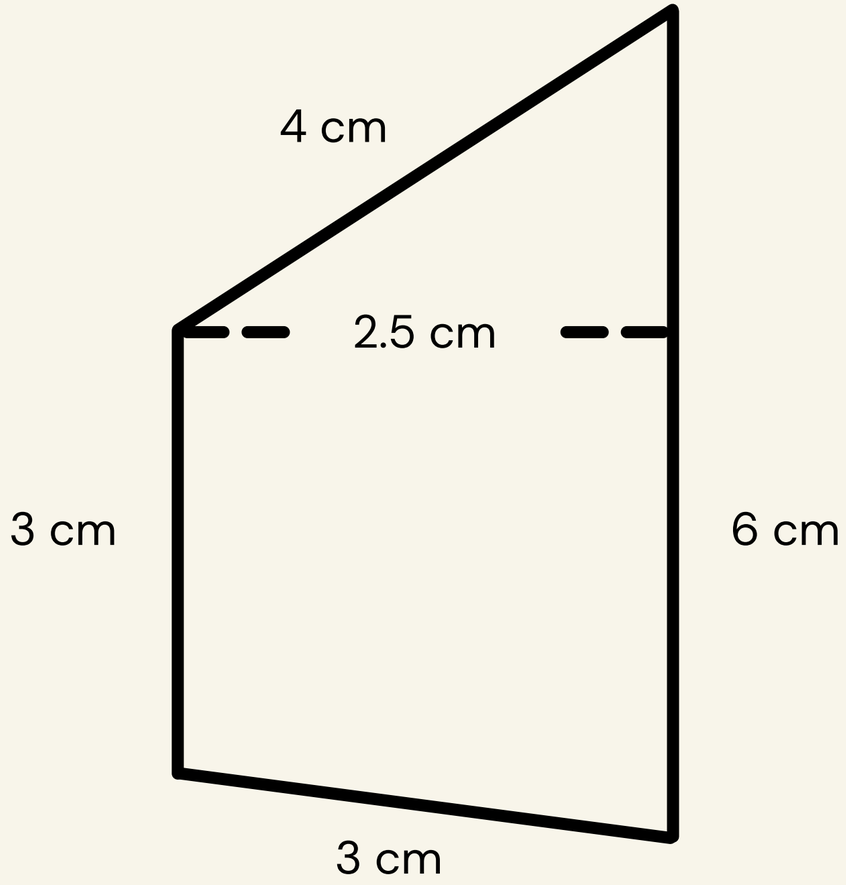
Calculate the area of a trapezoid using:



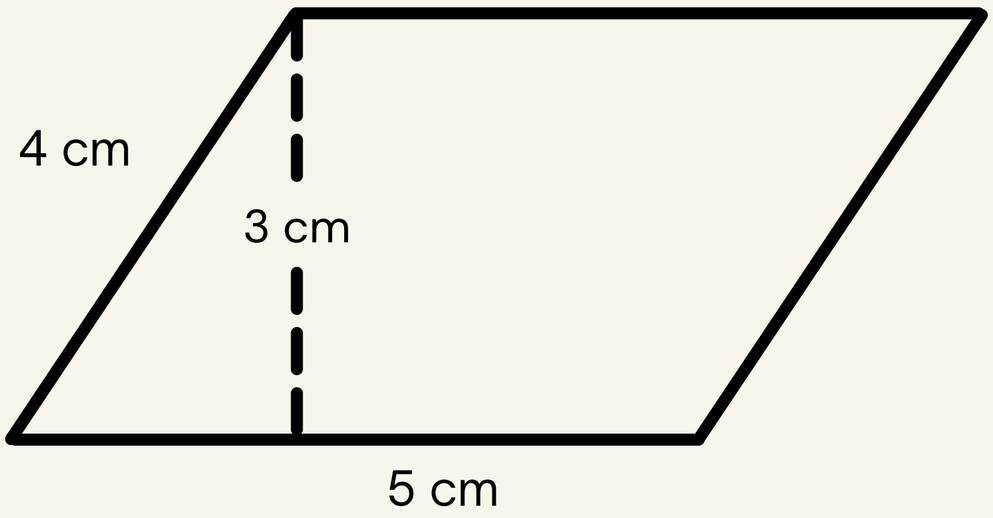
$$A = \frac{a+b}{2}h$$

Let's try to find the area of each figure below.





How did you find the area of the parallelogram?



Given:

b = 5 cm **h** = 3 cm

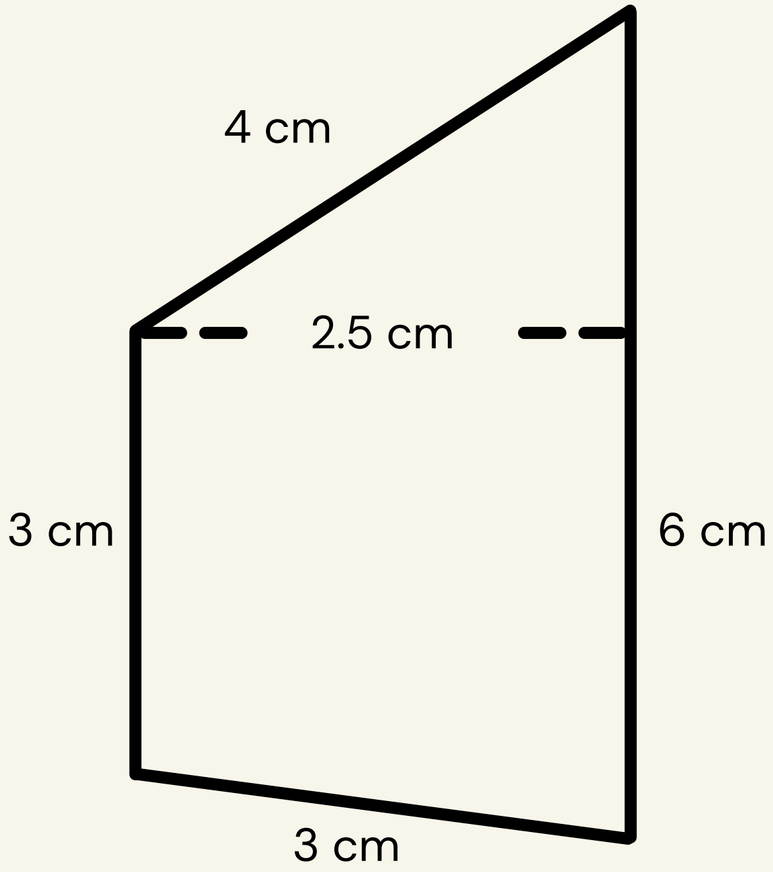
Solution:

$$A = bh$$

$$A = (5cm)\,(3cm)$$

$$A = 15\,\mathrm{c}\,m^2$$

How did you find the area of the trapezoid?



Given:

a = 3 cm **b** = 6 cm **h** = 2.5 cm

Solution:

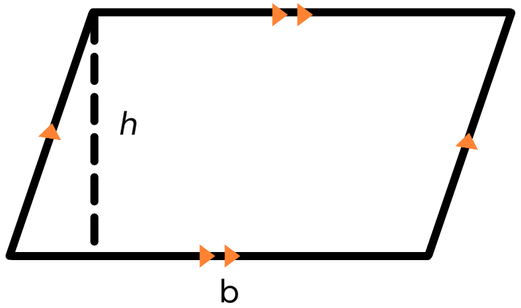
$$A = \frac{a+b}{2}h$$

$$A = \frac{3cm + 6cm}{2}\ (2.5cm)$$

$$A = 11.25cm^2$$

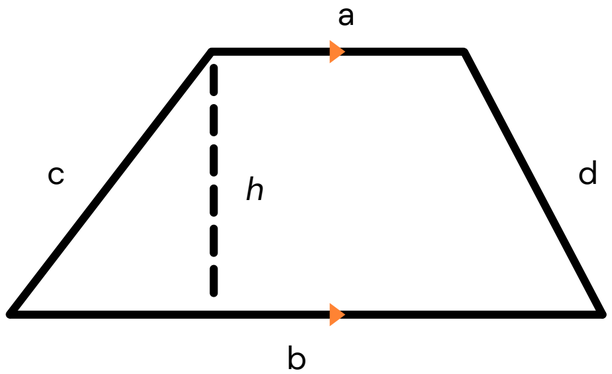
Key Points to Remember

PARALLELOGRAM



- It is a quadrilateral with two pairs of parallel sides.
- Add the lengths of all its sides to determine its perimeter.
- Use A = bh to find its area.

TRAPEZOID



- It is a quadrilateral with one pair of parallel sides.
- Add the lengths of all its sides to determine its perimeter.
- Use $A = \frac{a+b}{2}h$ to find its area.

What's next?

Read in advance on how to calculate the volume of a cube, a cylinder, a cone, and a sphere.

References:

Burzynski, Denny and Wade Ellis. Fundamentals of Mathematics. Last Accessed October 14, 2021 from https://cnx.org/contents/XeVIW7Iw@4.6:HTaWDr-4@4/Preface

CK-12. CK-12 Interactive Geometry. Last Accessed October 14, 2021 from https://flexbooks.ck12.org/cbook/ck-12-interactive-geometry-for-ccss/

Resource Page

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