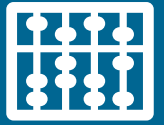


#6 AR Math Adventure: Exploring Geometric Shapes and Measurement

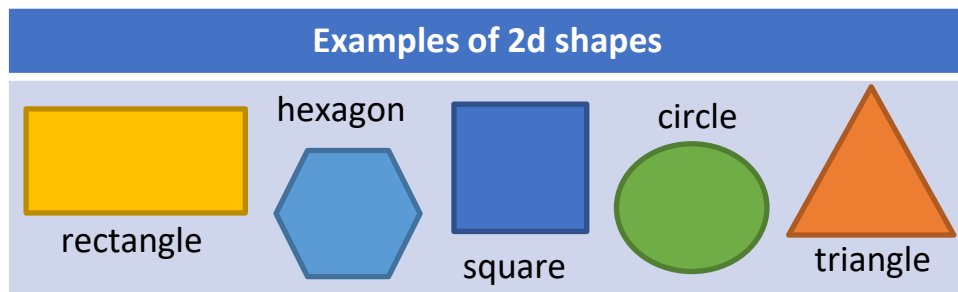


Age: 8 – 11 12 – 15 16 – 18

Keywords: mathematics, geometric shapes, properties, measurement

Geometric shapes are the figures which demonstrate the shape of the objects we see in our everyday life with **surfaces, angles, and boundary lines**. There are different types of 2D and 3D geometric shapes.

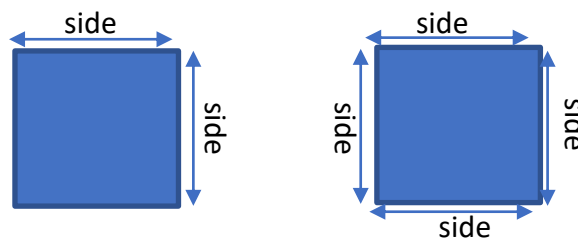
Examples of two-dimensional geometric shapes are appeared below:



Area and **perimeter** are two different measures used for measuring 2D (or flat) shapes that have only breadth and width.

- Area refers to the space inside the boundary. It is measured in square units like cm^2 , m^2 , etc.
- Perimeter represents the distance around the boundary of a shape. It is measured in units such as cm, m, etc.

In the case of a square shape, the area is equal to (side) \times (side) square units and the perimeter is the total length of its boundary (side+side+side+ side or $4 \times$ side).



To view the Augmented Reality (AR) content associated with this case-study, please download the Zappar App on your mobile device (AppStore/ Google Play) and point it toward this flyer. Enjoy and have fun learning!

Scan the code to learn the relationship between a square and an isosceles right triangle.



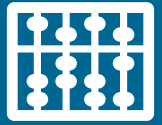
Tap the code with the Zappar app



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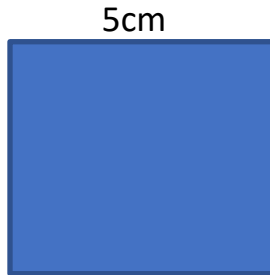


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Take the AR-based Quiz below to test your knowledge of the square measurements.

1.) What is the area of the square?



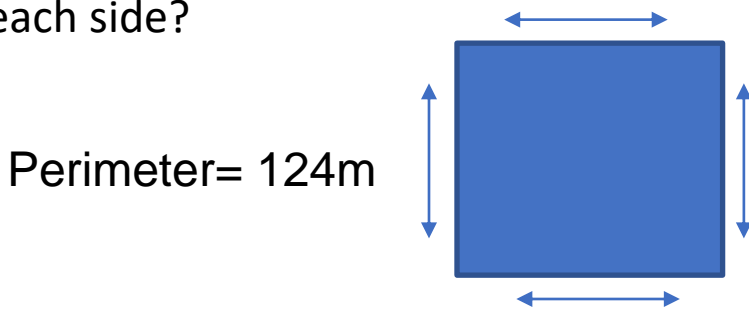
- a) 20 cm²
- b) 25 cm²
- c) 30 cm²

2.) The total area of a square is 49cm². What is the size of its sides?



- a) 7 cm
- b) 8 cm
- c) 9 cm

3.) The perimeter of a square is 124m. What is the size of each side?



- a) 31 m
- b) 43 m
- c) 62 m



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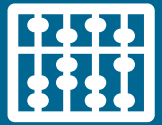


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Take on the challenge and be ready to become a coding expert!

In this challenge, you will be creating a fictional game with imaginary characters and obstacles to navigate the concepts of area and perimeter in a strategic way.

The objective of the game is for you to utilise your mathematical knowledge and problem-solving skills to effectively implement what you have learned.



Zap the code with
the Zappar app

Tip: Use the Sprite Lab

- *Sprite Lab is a block-based programming environment where you can make simple animations and games with objects and characters that interact with each other.*
- *Create an animation or game then share your app in seconds.*

Sprite Lab: <https://code.org/educate/spritelab>



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