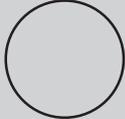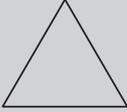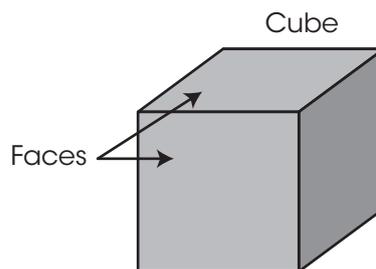# Learn About
Using Geometry: Plane Figures and Solid Figures

Plane figures are flat. Circles, triangles, squares and rectangles are plane figures.

Plane Figures			
Circle	Triangle	Square	Rectangle
0 sides, 0 corners	3 sides, 3 corners	4 sides, 4 corners	4 sides, 4 corners

Solid figures are not flat. The sides on a solid figure are called **faces.** A cube is a solid figure.

Cube

Faces

Lori drew a design in art class. What is the name of the black figure in the centre of the design?

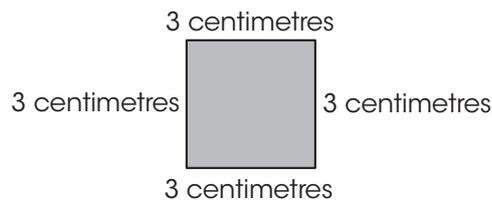The black figure in the centre of the design has three sides and three corners. The figure is a **triangle.**

Remember:

Plane figures are flat. Circles, triangles, squares and rectangles are plane figures. **Solid figures** are not flat. The sides on a solid figure are called **faces.** A cube is a solid figure.
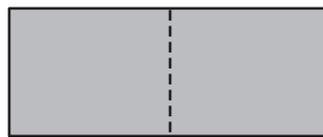
To find the **distance around a figure**, add the lengths of its sides.

3 centimetres

3 centimetres   3 centimetres

3 centimetres

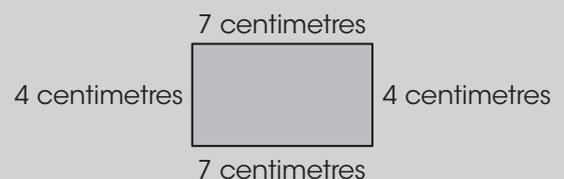$$3 + 3 + 3 + 3 = 12 \text{ centimetres}$$

When some figures are folded, the two halves match.

If you fold this figure in half along the dotted line, the two halves match. The folded figure looks like this:

Angus bought a card. The diagram shows the length of the card's sides. What is the distance around the card?

7 centimetres

4 centimetres   4 centimetres

7 centimetres

The card is 7 centimetres long and 4 centimetres wide.
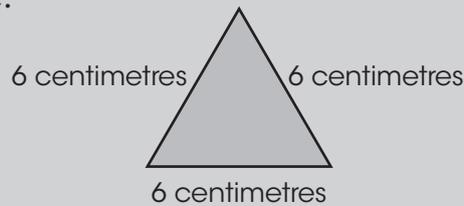$7 + 7 + 4 + 4 = 22$ centimetres
The distance around the card is **22 centimetres.**

Remember:

To find the **distance around a figure**, add the lengths of its sides. When some figures are folded, the two halves match.

Using Geometry

Sandra bought a new picture frame. She plans to place the picture frame on her nightstand. First, she needs to find a picture to put in the frame.

6 centimetres   6 centimetres

6 centimetres

1. What shape is the picture frame?

Ⓐ circle

Ⓑ square

Ⓒ triangle

Ⓓ rectangle

2. What is the distance around the picture frame?

Ⓐ 6 centimetres

Ⓑ 12 centimetres

Ⓒ 18 centimetres

Ⓓ 24 centimetres

1. What shape is the picture frame?

Ⓐ circle

This answer is not correct. A circle is round and has no sides. The picture frame has three sides and three corners. It is a triangle, not a circle.

Ⓑ square

This answer is not correct. A square has four sides and four corners. The picture frame has three sides and three corners. It is a triangle, not a square.

● triangle

This answer is correct. The picture frame has three sides and three corners. It is a triangle.

Ⓓ rectangle

This answer is not correct. A rectangle has four sides and four corners. The picture frame has three sides and three corners. It is a triangle, not a rectangle.

2. What is the distance around the picture frame?

Ⓐ 6 centimetres

This answer is not correct. The distance around the picture frame is equal to the sum of the side lengths.
6 + 6 + 6 = 18 centimetres, not 6 centimetres.

Ⓑ 12 centimetres

This answer is not correct. The distance around the picture frame is equal to the sum of the side lengths.
6 + 6 + 6 = 18 centimetres, not 12 centimetres.

● 18 centimetres

This answer is correct. The distance around the picture frame is equal to the sum of the side lengths.
6 + 6 + 6 = 18 centimetres.

Ⓓ 24 centimetres

This answer is not correct. The distance around the picture frame is equal to the sum of the side lengths.
6 + 6 + 6 = 18 centimetres, not 24 centimetres.
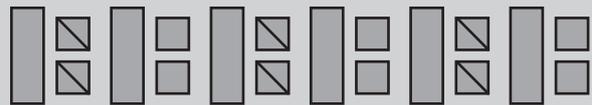
Lesson 17

Read the passage.
Then do Numbers 1–5.

Decorating the Kitchen

Kim is helping her mum choose new things for their kitchen. They want new wallpaper. Some of the wallpaper is covered with shapes. The shapes form patterns and designs.
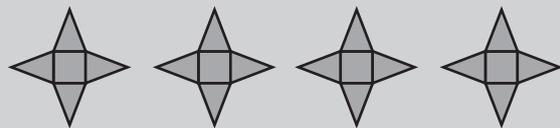
design 1

design 2

design 3

1. **How many squares are in design 1?**

   Ⓐ 0 squares
   Ⓑ 2 squares
   Ⓒ 4 squares
   Ⓓ 6 squares

2. **Which shapes are in design 1?**

   Ⓐ rectangles and squares
   Ⓑ rectangles, squares and triangles
   Ⓒ circles, triangles and squares
   Ⓓ circles and triangles