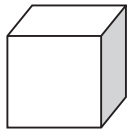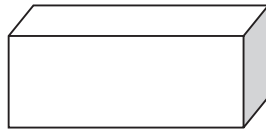# 13 - 1 Shapes of Boxes
Let's Make Boxes ⑴

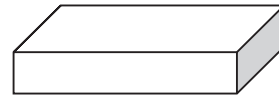**Instruction** Characteristics of boxes.

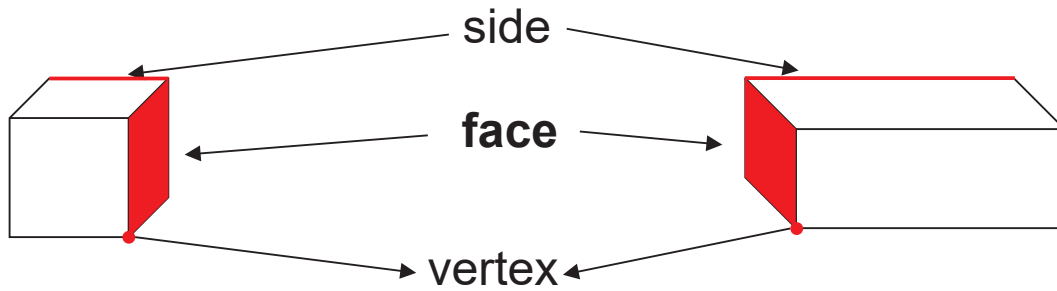Type A

Formed only by squares

Type B

Formed by squares and rectangles

Type C

Formed only by rectangles

side

face

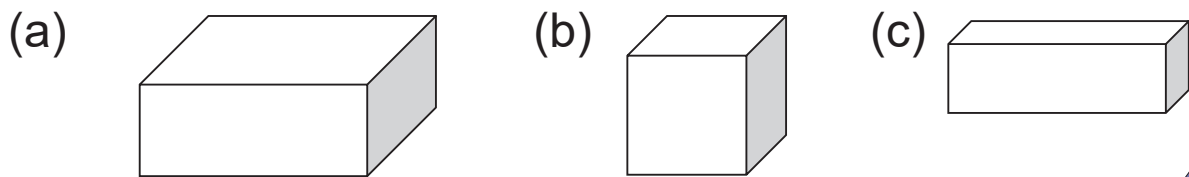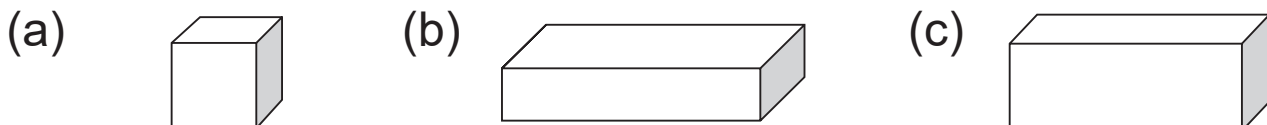vertex

- Flat surfaces of a box are called face.
- The line between two faces is called side.
- The point where three sides meet is called vertex.

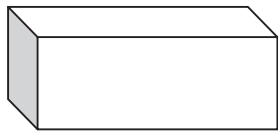**Example 1** Classify the following boxes into the three types. Which types are these?
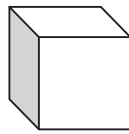
(a)

(b)

(c)

Type A is | (b) | Type B is | (c) | Type C is | (a)

1 Classify the following boxes into the three types.

(a)

(b)

(c)

(d)

(e)

(f)

Type A are [ ]

Type B are [ ]

Type C are [ ]

Example 2 Investigate the following box.

① Count the number of sides, faces and vertexes.

	Vertexes	Sides	Faces
	8	12	6

② Write down the shapes of faces and the lengths of sides.

	Faces	Sides
	Squares with the same size	All the lengths are the same

2 Investigate the following box.

① Count the number of sides, faces and vertexes.

	Vertexes	Sides	Faces

You can find a box and count the vertexes, sides, and faces.

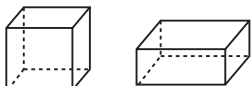② Write down the shapes of faces and the lengths of sides.

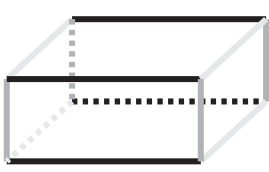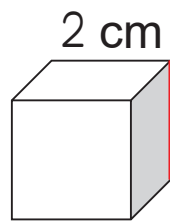|	Faces	Sides

13 - 2

Let's Make Boxes (2)

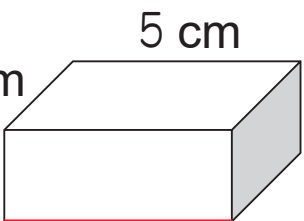**Instruction** Summary of characteristics of boxes.

1 The number of sides, faces and vertexes.

	Vertexes	Sides	Faces
	8	12	6

2 Write down the shapes of faces and the lengths of sides.
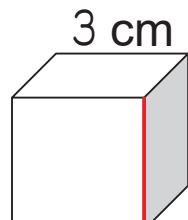
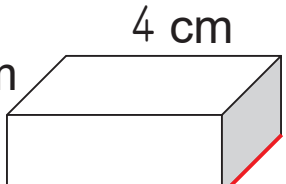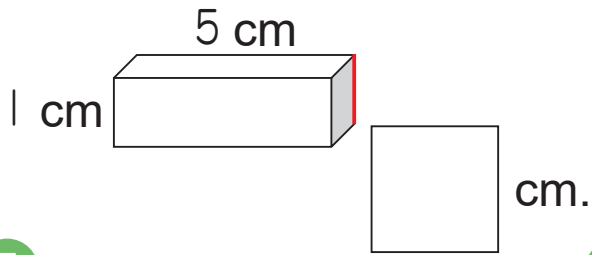|	Faces	Sides
	Squares with the same size	All the lengths are the same
	Opposite faces are the same shape and size.	3 kinds of lengths are described in 3 kinds of color

Example Find the length of the side marked in red.

1

2 cm

2 cm.

2

3 cm   5 cm

5 cm.

1 Find the length of the side marked in red.

1

3 cm

cm.

2

2 cm   4 cm

cm.

3 5 cm
| cm
☐ cm.

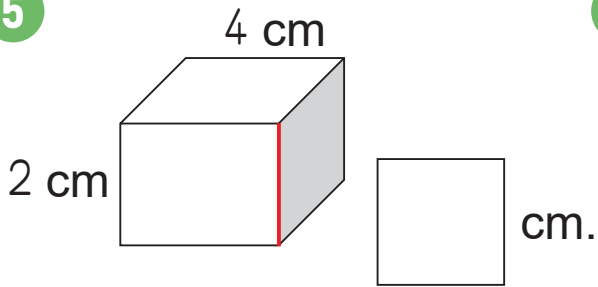**4** 4 cm
☐ cm.

5 4 cm
2 cm
☐ cm.

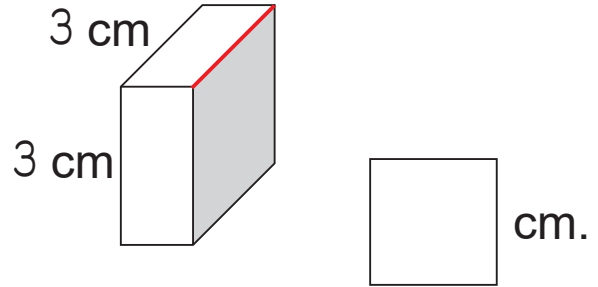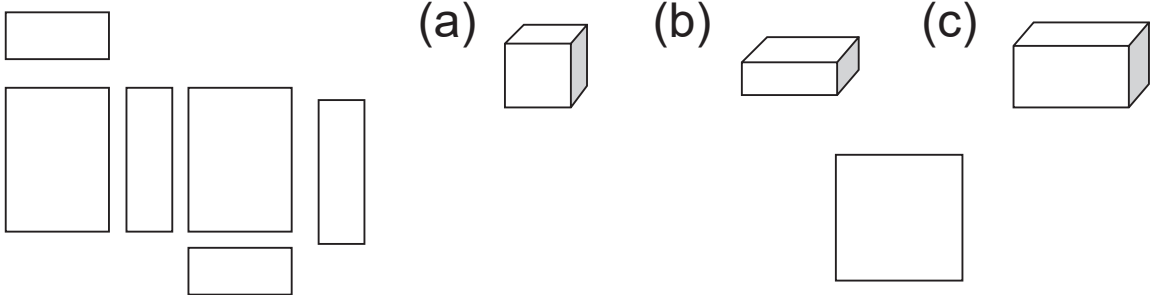**6** 3 cm
3 cm
☐ cm.
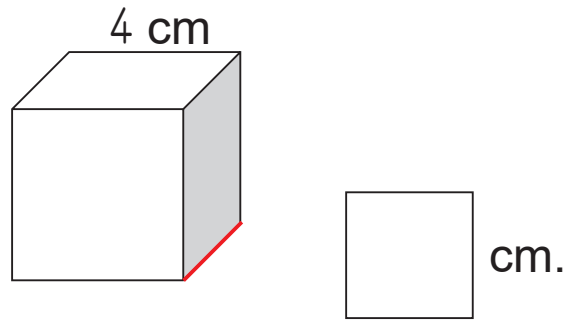
Example 2 When you tape together to make a box, which one will you make, (a), (b), or (c)?

(a) (b) (c)

(a)

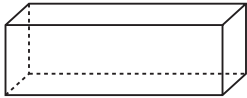**2** When you tape together to make a box, which one will you make, (a), (b), or (c)?

1 (a) (b) (c)

**2** (a) (b) (c)
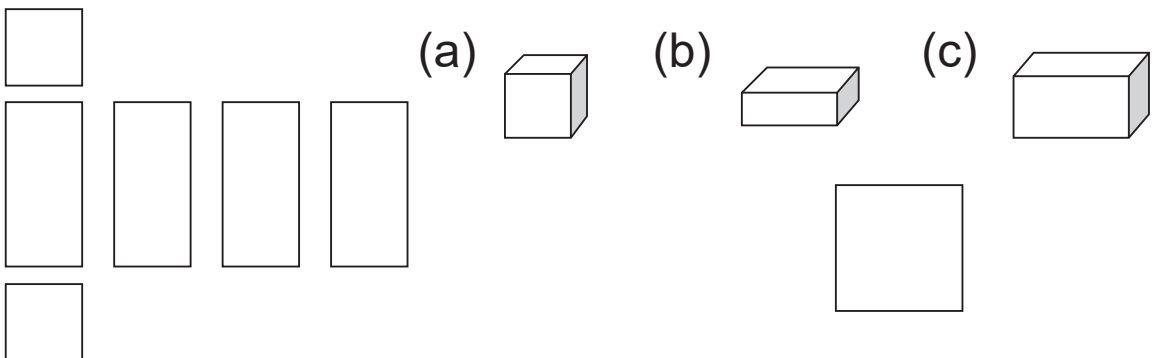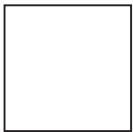
Review

1 Investigate the following box.

① Count the number of sides, faces and vertexes.
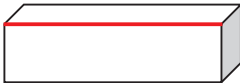
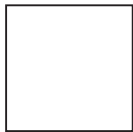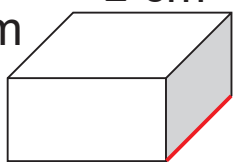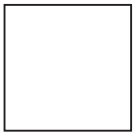|	Vertexes	Sides	Faces

② Write down the shapes of faces and the lengths of sides.
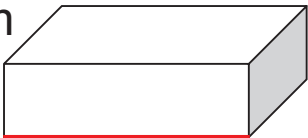
	Faces	Sides

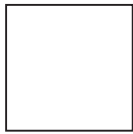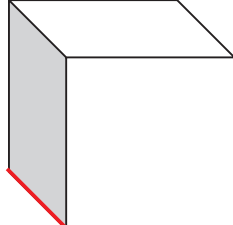**2** Find the length of the side marked in red.

① 1 cm

☐ cm.

② 3 cm

1 cm

☐ cm.

③ 2 cm

2 cm

☐ cm.

④ 2 cm

5 cm

☐ cm.

⑤ 4 cm

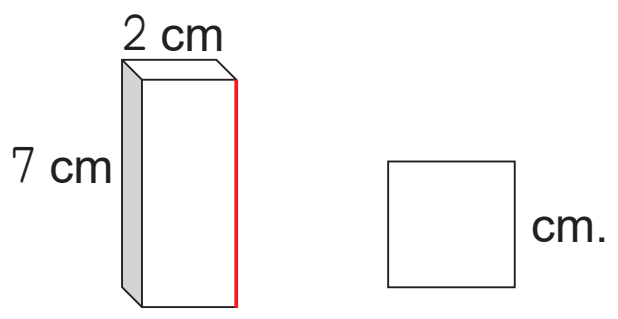☐ cm.

⑥ 1 cm

2 cm

☐ cm.
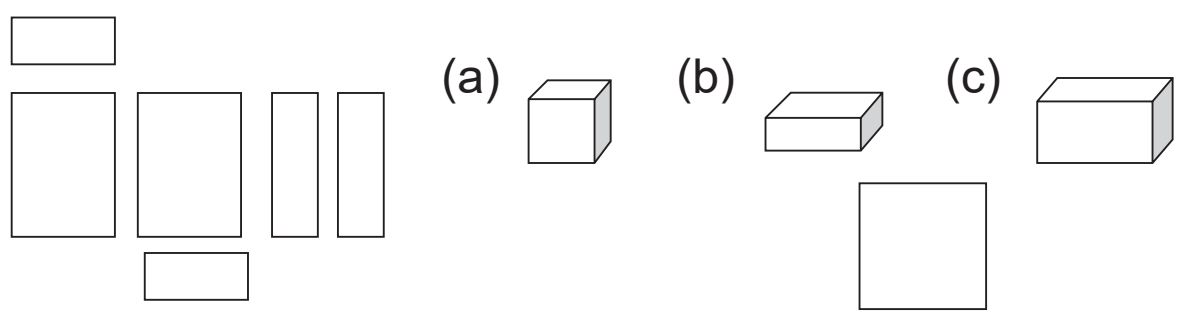
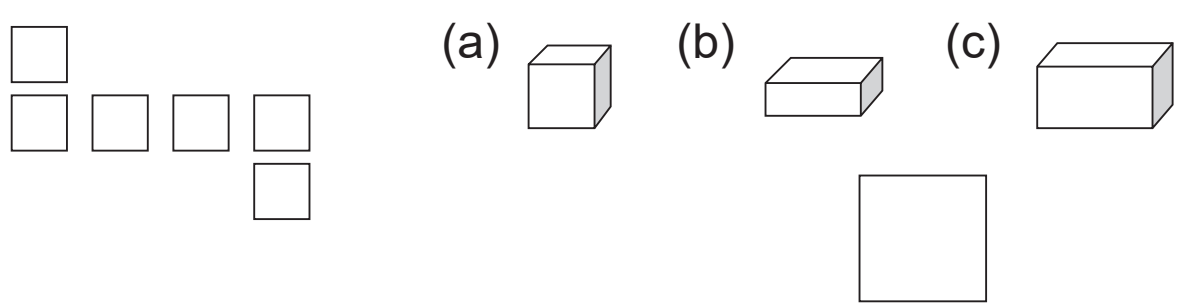**7**

6 cm 3 cm

[ ] cm.

8

2 cm

7 cm

[ ] cm.

2 When you tape together to make a box, which one will you make, (a), (b), or (c)?

1

(a) (b) (c)

2

(a) (b) (c)

3

(a) (b) (c)

4

(a) (b) (c)

143