

Topic 14 (page 76)      3D objects

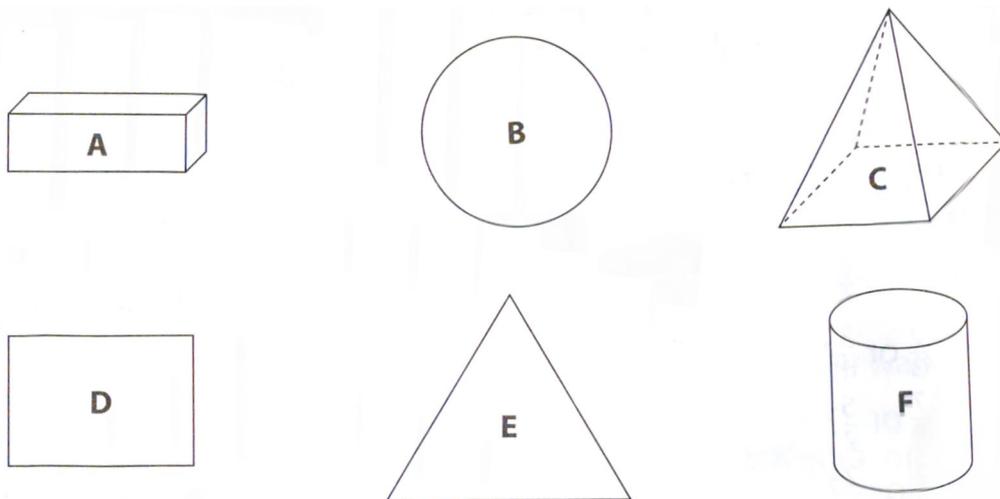
- **Three-dimensional (3D) objects are objects that have length, width and height.**

Task 1.

1. Look at these objects.

Which of these objects are 3D shapes?

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Instruction:

Complete Exercise 14.1 on page 76 neatly in your book or on paper. Remember to write your date and heading.

Task 2

Some 3D objects have curved surfaces and some have flat surfaces. There are three groups we can sort 3D objects into:

- A.** Objects with curved surfaces only
- B.** Objects with flat and curved surfaces
- C.** Objects with flat surfaces only.

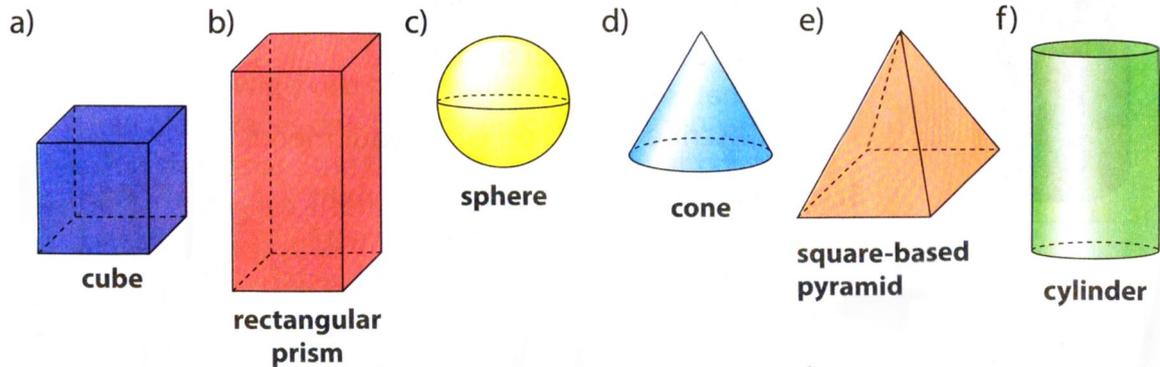
Look at the table. Group A shows a shape with a curved surface. Group B shows a shape with both flat and curved sides. Group C has a shape with only flat surfaces.

A	B	C

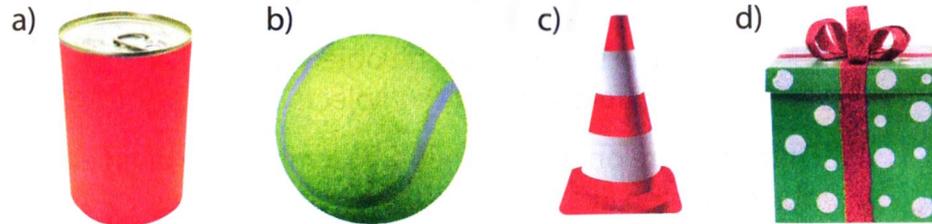
Instruction:

Complete **Exercise 14.2** on page 77 neatly in your exercise book. Don't forget to write the date and heading.

1. For each of these 3D objects, say which group the object belongs in: Group A, Group B or Group C.



2. Here are some examples of 3D objects that we see every day.

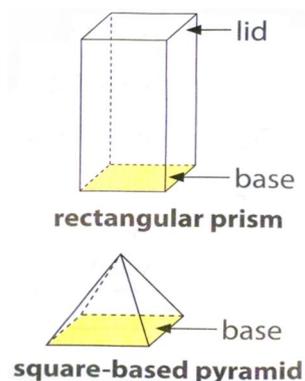


Can you see which of the mathematical 3D objects in question 1 matches the everyday 3D objects above?

Name and compare 3D objects:

The first 3D object is a rectangular prism. It has two polygons of the same shape for its base and its lid. All faces are rectangles. We name the prism after the shape of its base.

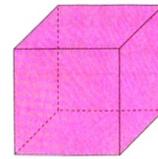
The second 3D object is a pyramid. A pyramid has a polygon as a base. All other faces are triangles. A square pyramid will have a square base.



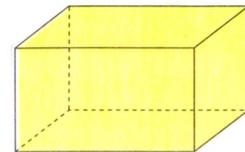
### Task 3

Complete **Exercise 14.4** (page 79) in your exercise book.

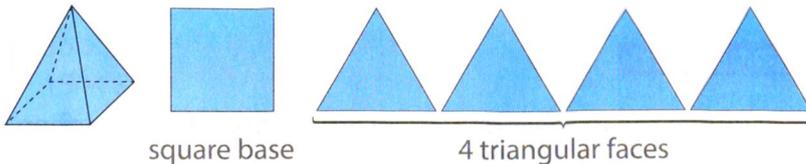
1. Look at the drawing of a prism.
  - a) How many faces does the prism have?
  - b) What shape are the faces of the prism? This type of prism is called a cube.
  - c) Draw all the faces of the cube.
  - d) Make a cube of any size. Use cardboard with a piece of square grid paper glued on to it. You will need a ruler, a pair of scissors and glue or tape.



2. Look at the drawing of a rectangular prism.
  - a) How many faces does the rectangular prism have?
  - b) What shapes are the faces of the rectangular prism?
  - c) Draw all the faces of the rectangular prism.
  - d) Make a rectangular prism of any size. Use cardboard with some square grid paper glued on to it.



3. Study the diagram carefully. It shows a pyramid and the shapes you need to make one.



- a) What shape is the base?
- b) What shape are the other faces?

Topic 15 (page 80)

Multiplication.

Week 5 (continued)

### Task 4

Examples:

Method 1: Breaking up one number.

$$\begin{aligned}47 \times 45 &= 47 \times (40 + 5) \\&= (47 \times 40) + (47 \times 5) \\&= 1880 + 235 \\&= 2115\end{aligned}$$

Method 2: Rounding and compensating

Study the example on page 80

$$\begin{aligned}47 \times 45 &= 47 \times (50 - 5) \\&= (47 \times 50) - (47 \times 5) \\&= 2350 - 235 \\&= 2115\end{aligned}$$

Instruction:

Complete **Exercise 15.1** (number 1) on page 80 in your exercise book. Remember to write the date and heading.

Task 5

1. Multiply using factors.

All the numbers that divide exactly into a number without leaving a remainder are called **factors** of that number. Some numbers have several pairs of factors.

For example:  $24 = 12 \times 2$  or  $6 \times 4$  or  $8 \times 3$

### **Example**

Breaking down one of the numbers into factors to multiply

$$\begin{aligned} 53 \times 45 &= 53 \times 9 \times 5 \\ &= 53 \times 3 \times 3 \times 5 \\ &= 159 \times 3 \times 5 \\ &= 477 \times 5 \\ &= (400 + 70 + 7) \times 5 \\ &= 2\,000 + 350 + 35 \\ &= 2\,385 \end{aligned}$$

Instruction:

Complete **Exercise 15.2** (on page 8) neatly in your exercise book

2. Solving multiplication problems

Exercise 15.4 (page 84)

1. Gugu spent 23 minutes reading. Zakhele spent twice as long as Gugu reading. How long did Zakhele spend reading?

$$23 \times 2 = 46 \text{ minutes.}$$

Instruction:

Do the rest of **Exercise 15.4** in your book. Remember to write the date and heading.