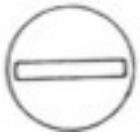
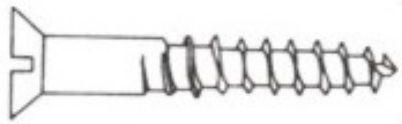
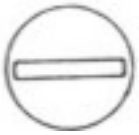
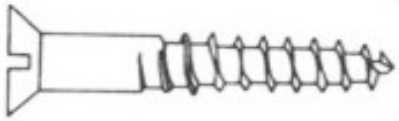
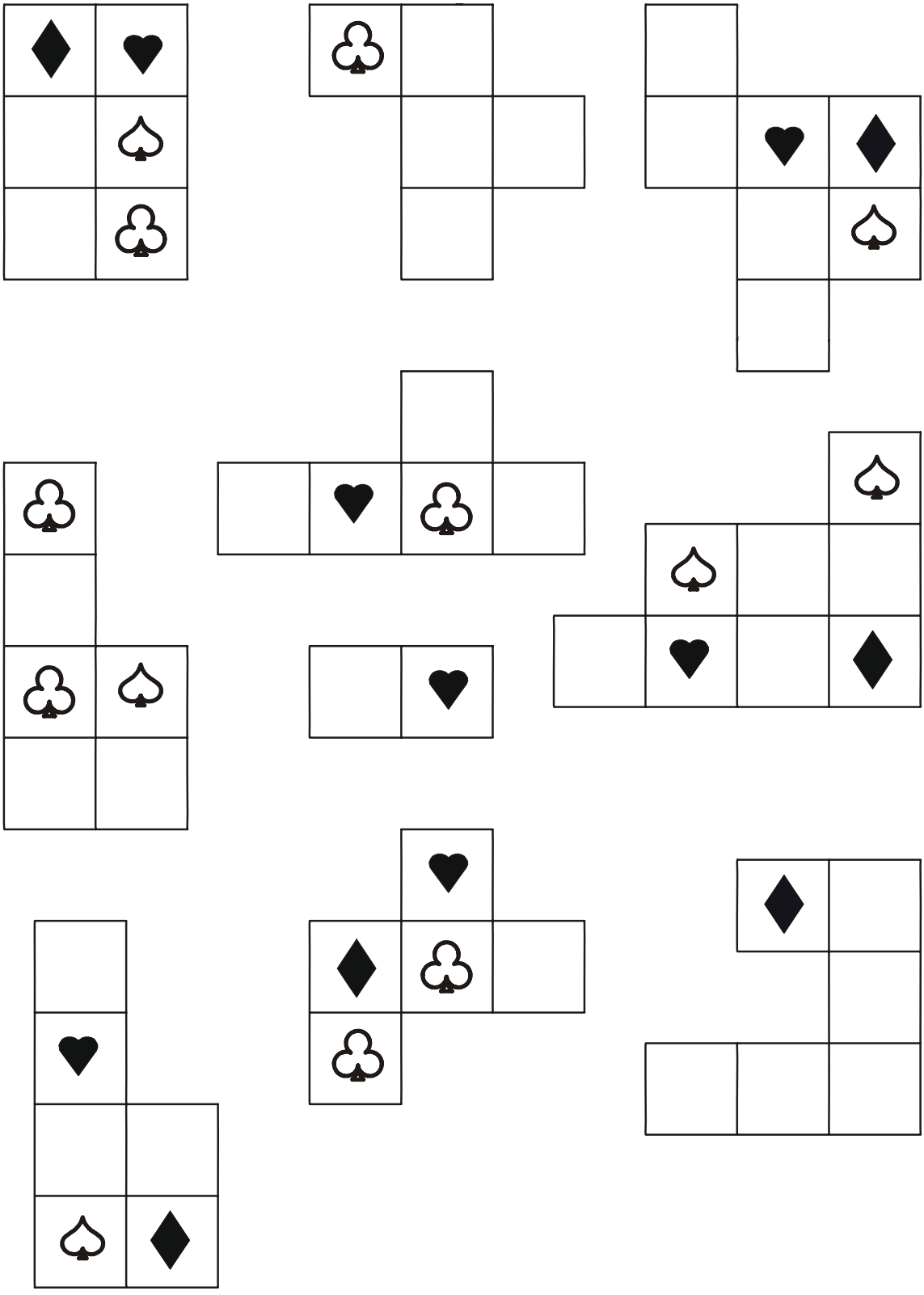
WORK IT OUT	**Recognising shapes** **"Screws"**	**2-41** **Level 4** **Exercise 1**
Aims	- Recognising shapes seen from different angles. - Comparing from different angles. - Reconstructing a shape in your mind.	
Applications (examples)	In class: in geometry, studying unfolded shapes like a parallelepiped rectangle; in manual work, constructing objects from paper or cardboard, models, etc. At work: putting together cardboard boxes for packing, making objects or boxes from a "flat" support, cutting out clothes from a pattern… In everyday life and leisure: using boxes bought at the Post Office to put up yourself, making decorations out of paper, model making, cutting out clothes from patterns …	
Materials	A sheet of paper with: - 6 six screws and bolts seen from above - the same 6 screws and bolts seen from the side.	
Instructions	By using a code that they choose individually, the pupils will match the screws (or bolts) and the heads.	
Comments	One of the main interests of this exercise is to ask the pupils, when pooling solutions, to be very precise as to the method used and to explain as clearly and in as much detail as possible the marks which helped find the match.	
Variations (examples)	**1.** The teacher draws on the board a different "unfolded" shape from those shown in the exercise (for example a cone, or a six-pointed prism). The students reproduce the shape on a blank sheet of paper, in whatever dimension they like, but keeping more or less the same proportions. They will then cut out this shape and try to fold the paper to find the shape, in three dimensions, that the teacher was thinking of. They can of course readjust the proportions of their shape by drawing it again or cutting out more. The teacher can also give ideas of measurements to avoid too great a disproportion in reproducing the proportions. **2.** The teacher can draw a shape en volume (for example a glass, a decanter, a jug) and ask them to do the drawing first as they might imagine it "unfolded" then to cut it out and fold it to recreate the object using paper. **3.** The teacher can have the group pool all their ideas and suggestions, to make a much-simplified model of a well-known monument (for example Marble Arch, an obelisk, the Eiffel Tower…)	
Individualisation	Yes	
Answers	Yes	

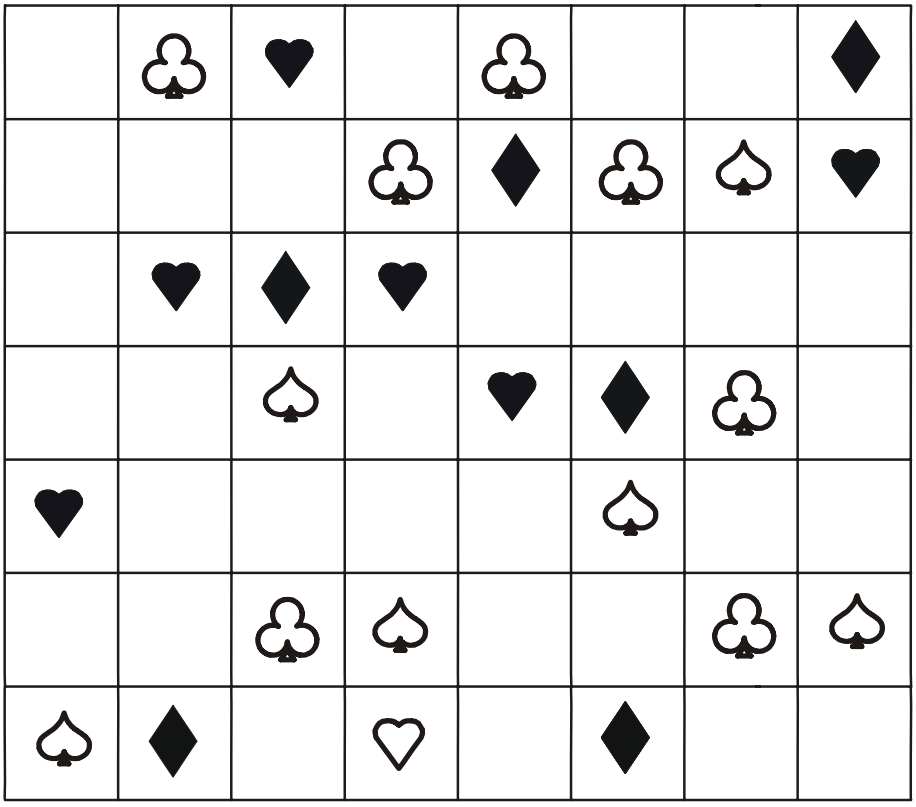
 **A**	 **Z**
 **B**	 **A**
 **C**	 **B**
 **D**	 **C**
 **E**	 **E**
 **F**	 **D**

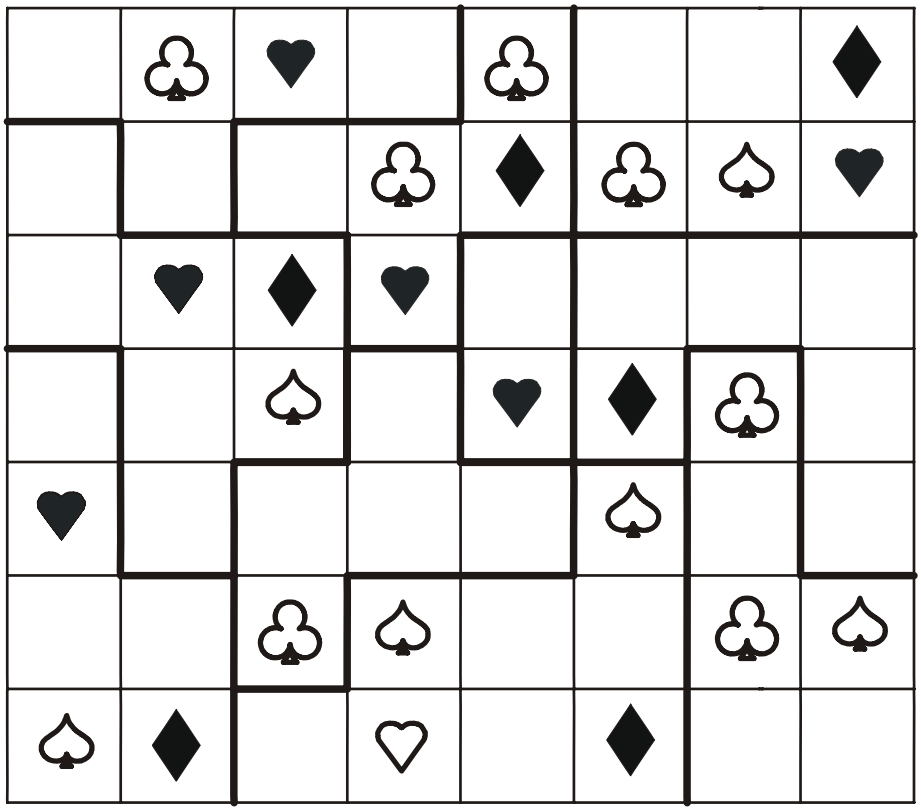
WORK IT OUT	**Recognising shapes** **"Jigsaw puzzle grid"**	**2-42** **Level 4** **Exercise 2**
Aims	- Recognising shapes using symbols. - Using mental rotation to recognise a shape. - Comparing. - Reconstituting. - Visual scanning without taking into account any particular criteria.	
Applications (examples)	In class: increasing the field of vision to identify a document and reading when the text is not straight or in front of the reader; exercise in scanning in all directions to accelerate recognition speed, particularly useful in improving reading ability; exercise in finding a quick and efficient strategy when looking for something visually. At work: Exercise in visualising quickly and reliably, for example in making or checking printed circuit boards; exercise in searching for a rapid and efficient strategy for any post in which the visual predominates and which requires precision. In everyday life and leisure: improving the speed of visual scanning, useful in all domestic tasks, DIY, leisure activities like crosswords, embroidery, etc.	
Materials	- One page with a grid in which symbols of playing cards are placed. - A second page with the same grid split up and sometimes inverted in comparison with the original.	
Instructions	Les pupils will circle each shape shown on the second page on the grid on the first page after having found it. They must not take into consideration the inversions which sometimes appear in the split grid.	
Comments	If some pupils find the exercise too difficult, they can do an intermediate phase consisting in showing them the second page and the answer sheet. The work will then be to find the sets shown on the answer sheet. Once they have done this exercise, the pupils can take the first page again instead of the answers, which they put to one side.	
Variations (examples)	**1.** An exercise practising visual searching, whose oral formulation would consist of a description, by one of the pupils, of a "piece" of the grid without specifying the types of sign that it contains (for example, they will say: "the piece contains 3 signs" and not "the piece contains two clubs and a heart "); the group will then try to find the piece described. Needless to say, the description must be clear and precise! **2.** Using a blank crossword grid, the pupils can practise isolating parts that they describe to the group. It will be interesting to see how many different solutions can be found from the answers given then, in addition to those provided.	
Individualisation	Yes.	
Answers	Yes.	

Page 1



Page 2





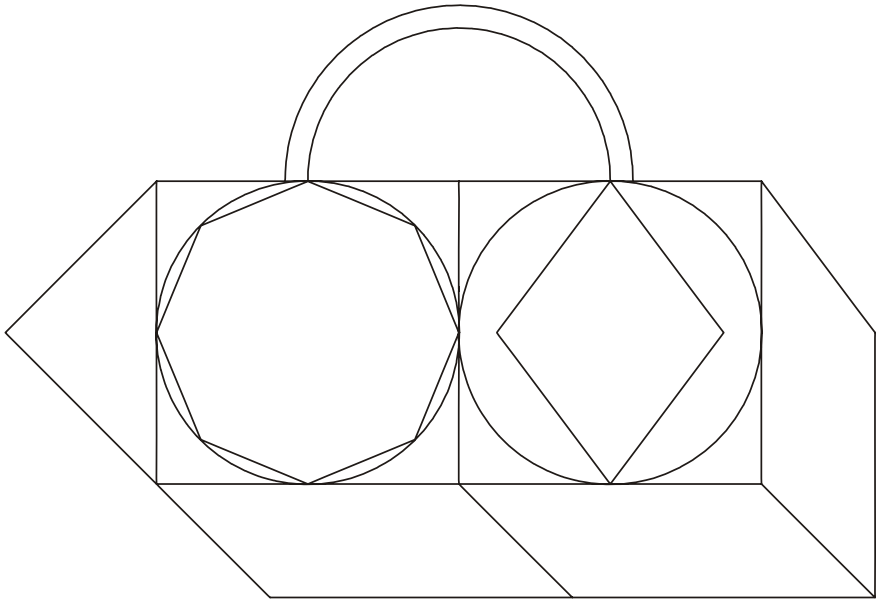
WORK IT OUT	**Recognising shapes** **"Funny-shaped suitcase"**	**2-43** **Level 4** **Exercise 3**
Aims	- Distinguishing geometric forms – fitted into each other – listing them and, possibly, naming them. - Getting used to extending one's field of vision, to have an overall view rather than a fragmented view of what is shown.	
Applications (examples)	In class: rediscovering simple geometrical forms, their different characteristics and their semantic field and, possibly, discovering or rediscovering how to measure them (circumference or area). At work: any operation consisting in finding and listing similar shapes in tasks such as filing, tidying, packing, labelling, shelf-stocking in a supermarket. By extension, taking measurements in the building industry for wall-papering, carpeting or tiling… In everyday life and leisure: setting out furniture in a room, fittings in a kitchen, a bathroom, simple DIY, laying carpet, cutting curtains …	
Materials	- One sheet of paper with a drawing made up of different geometrical shapes all mixed up together - One page with questions about the drawing.	
Instructions	The pupils will observe the shape in order to answer the questions asked on the second sheet. If their reading ability prevents them from understanding the questions, the exercise can be done orally.	
Comments	If some pupils find the exercise too difficult, they can do an intermediate phase consisting in showing them the second page and the answer sheet. The work will then be to find the sets shown on the answer sheet. Once they have done this exercise, the pupils can take the first page again instead of the answers, which they put to one side.	
Variations (examples)	**1.** If the group is interested, the teacher can ask them to try to find the name of the different forms distinguished in the exercise, and even to name others which can then be drawn. **2.** The pupils can try to find, in the room or from memory, an object or a piece of furniture which is made up of several different geometric forms. **3.** If the teacher is asked, he can have the group discover or rediscover the elementary calculations for the shapes (circumference and area) going up to circles and triangles. The pupils can give examples of practical applications.	
Individualisation	Yes.	
Answers	Yes.	

WORK IT OUT

Recognising shapes

"Funny-shaped suitcase"

2-43



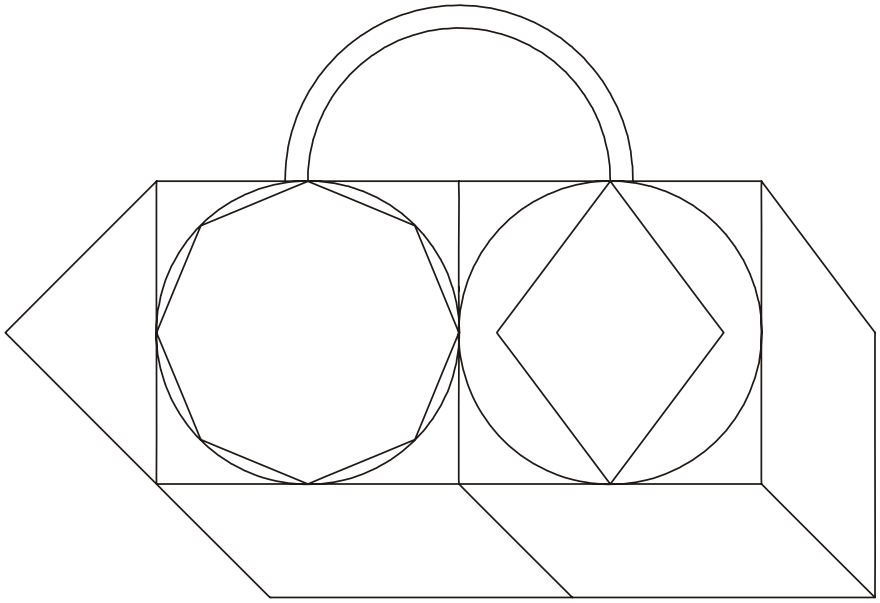
1. In this drawing, how many shapes are drawn several times?

2. How many shapes are drawn only once?

3. How many shapes are there in all?

Recognising shapes

"Funny-shaped suitcase"



1. In this drawing, how many shapes are drawn several times?

4 shapes in all are drawn several times:
2 squares
2 semi-circles
2 circles
4 parallelograms (if you consider the two parallelograms which together form a third)

2. How many shapes are drawn only once?

4 shapes in all are drawn only once:
1 lozenge
1 rectangle (if you consider the two squares which form it)
1 triangle
1 octagon (an 8-sided shape)

3. How many shapes are there in all?

In all, there are 8 shapes.