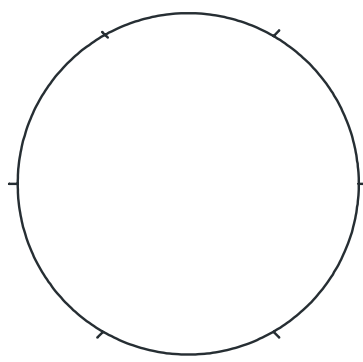
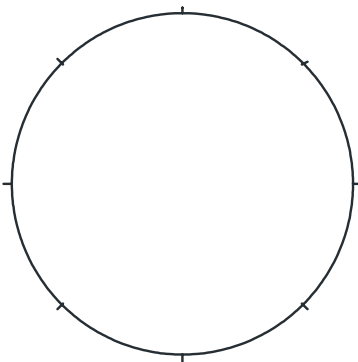
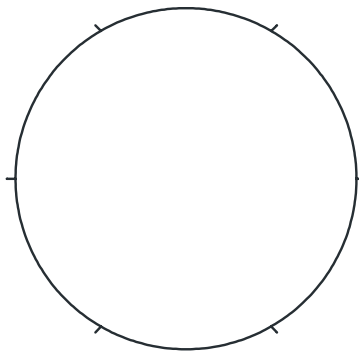
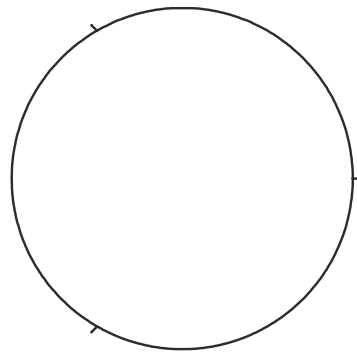
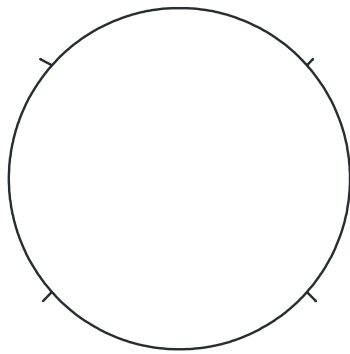
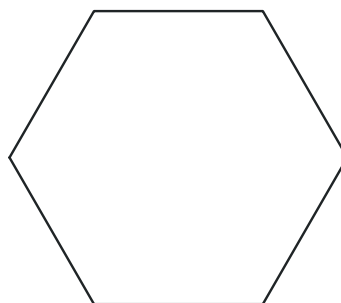
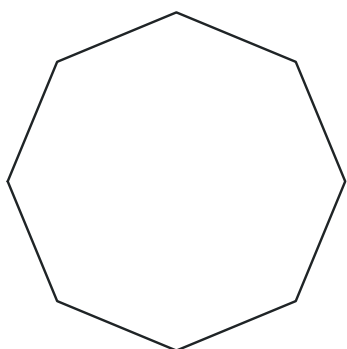
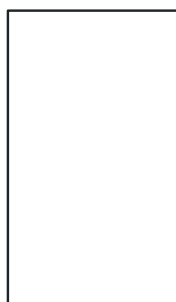
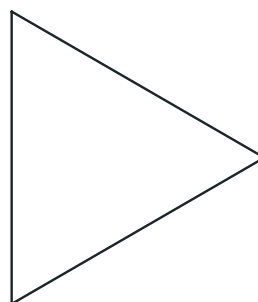
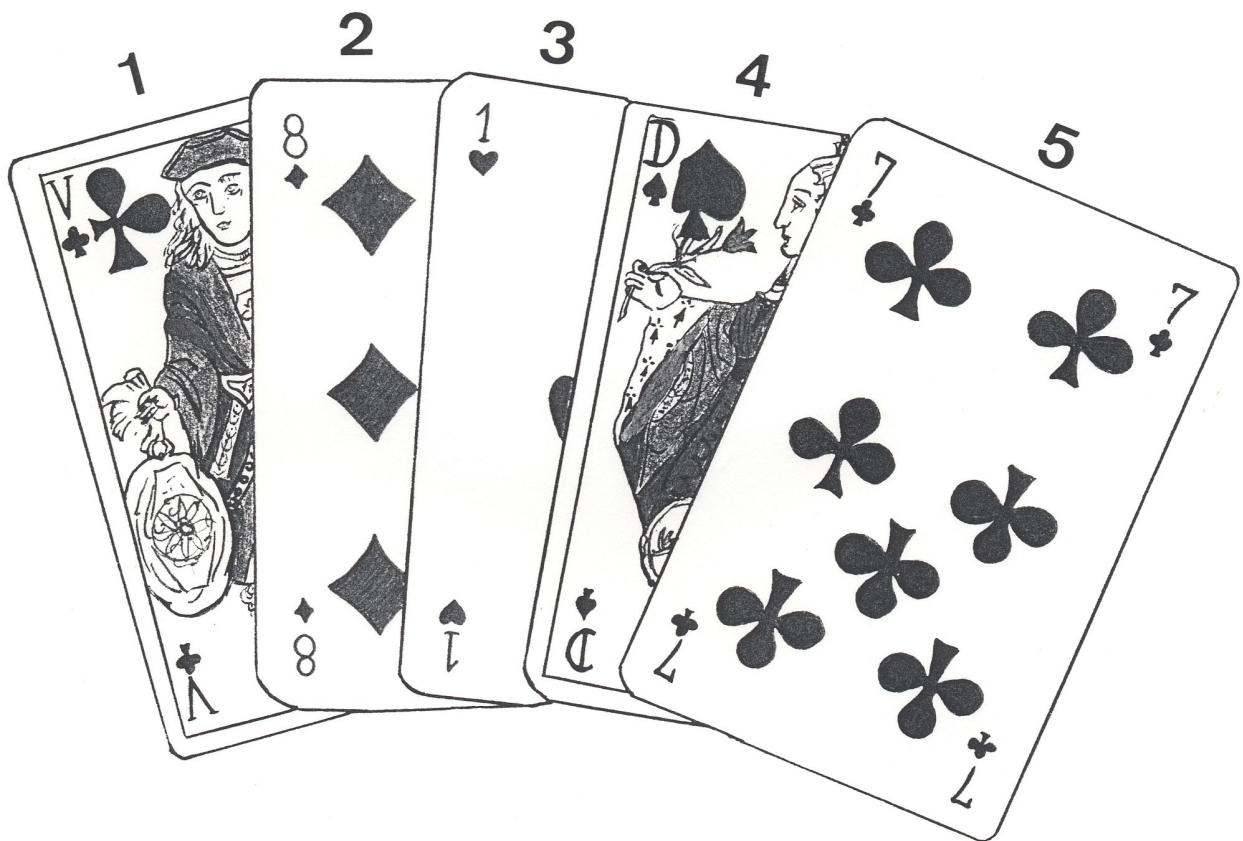


<i>Aims</i>	Acquire a sense of rotation by manipulating geometric shapes.
<i>Applications (examples)</i>	<u>In class</u> : work on orientation, introduction to geometry (triangles and hexagons, squares and octagons), as the circle is the basis for understanding all regular polygons; understand gearing. <u>At work</u> : training for fitters: orientation of one part in relation to a whole). <u>In everyday life and for leisure</u> : child's game: shapes and forms.
<i>Materials</i>	<ul style="list-style-type: none">- A reference page with drawings of circles with marks.- A second page showing 5 independent geometric shapes for the pupils to cut out.- A pair of scissors for each pupil.
<i>Instructions</i>	The teacher asks the pupils to cut out the geometric shapes and to place them in the corresponding circles using the marks.
<i>Comments</i>	The pupils can move the shapes around in the circles to find the exact place, but they must not move or pivot the page itself.
<i>Variations (examples)</i>	The teacher can ask the pupils if it is possible de superpose several shapes in one circle, to try it out and show their work to the group.
<i>Individualisation</i>	No.
<i>Answers</i>	No.

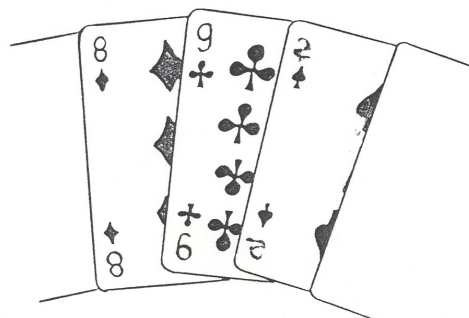
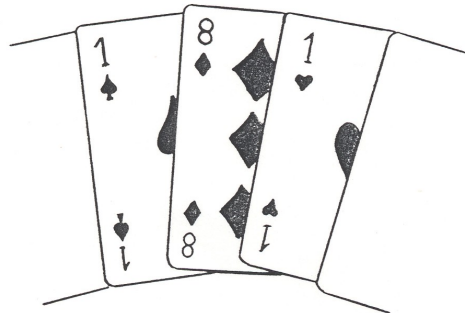
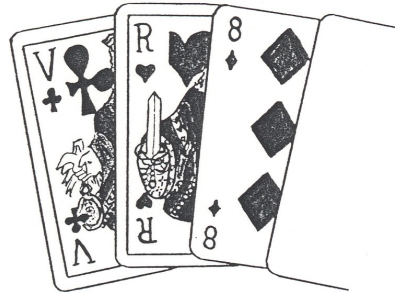




WORK IT OUT	Understand a rotation “The ace of hearts”	7-22 Level 2 Exercise 2
Aims	Practise mentally finding the position of an element which is part of a whole when one or more elements are added.	
Applications (examples)	<p><u>In class</u>: syntax: where to place the verb (or the direct object) in a written sentence.</p> <p><u>At work</u>: anything concerning understanding mechanisms, repairs, maintenance, looking for causes of breakdowns; also storage.</p> <p><u>In everyday life and for leisure</u>: anything concerning children’s games, as well as searching or exploring (for example looking for a document in a file, or a child in a crowd, etc.).</p>	
Materials	<ul style="list-style-type: none"> - A reference page with a picture of 5 playing cards. - A second page with pictures of cards that have been added, and those just next to them. 	
Instructions	<p>The pupils look at the page with the 5 cards and work on the page where the cards have been added. To the right of each new series, they must write the position of the ace of hearts in the configuration where one card has been added each time. The added cards are cumulative. For example: to find the position of the ace of hearts when the fourth card is added, the cards added previously must be taken into account in the position they held in the series when they were inserted.</p> <p>To make the work more fun, the teacher can use a real pack of cards. He will say which card has been added to the series and where, but without placing it in the series.</p>	
Comments	If the exercise seems difficult, the teacher can suggest exercise 7-11 first.	
Variations (examples)	Using a real pack of cards, the teacher can ask the pupils to choose a series and add the cards they want. The pupils who have already done 7-11 might suggest turning the series around or upside down.	
Individualisation	Yes.	
Answers	Yes.	



Page 2



1. 4th position

2. 5th position

3. 5th position

4. 7th position

<i>Aims</i>	Practise deducing the direction of a rotation from the point of view of the observer.
<i>Applications (examples)</i>	<p><u>In class</u>: anything related to decentring. Symmetry in geometry, observation.</p> <p><u>At work</u>: any job requiring you to situate yourself in relation to a movement, depending on whether you are on the right or the left, of a vehicle, for example, when assembling in the factory or repairing. Fit in with a team. Understand the way things move during training in safety, repairs, maintenance, etc.</p> <p><u>In everyday life and for leisure</u>: understanding another person's movement, in sport (for example send the ball to a beginner's racket hand in tennis or table tennis).</p>
<i>Materials</i>	A reference page with a picture of two similar alarm clocks. These clocks are shown in perspective, on a flat surface, one opposite the other. The clock further away from the observer is seen with the dial facing; the other is shown from behind (the dial is therefore not visible).
<i>Instructions</i>	The pupils draw an arrow showing the direction of the rotation of the hands on each alarm clock from their own point of view.
<i>Comments</i>	If the exercise seems difficult, the teacher can suggest doing exercises from the series of “Find – Find yourself”.
<i>Variations (examples)</i>	The pupils can reflect on everything that moves or turns always in the same direction and think about the direction of the rotation when the object is turned round or the observer's point of view is moved. Assembly lines in a factory give many examples.
<i>Individualisation</i>	Yes.
<i>Answers</i>	Yes.

