



Visualization Chapter 10

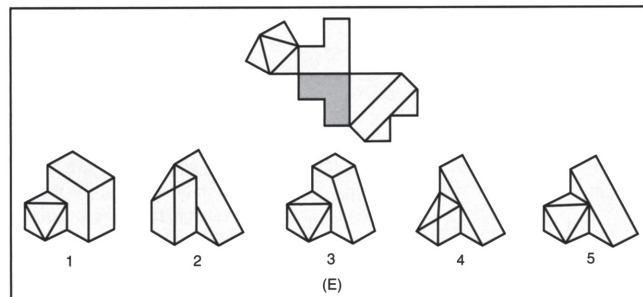
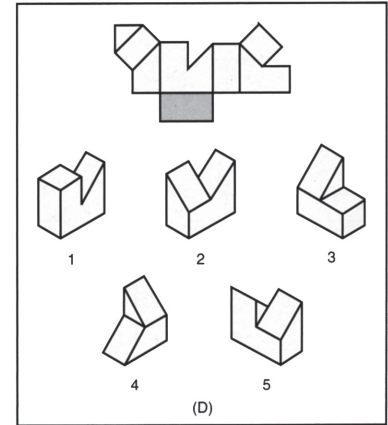
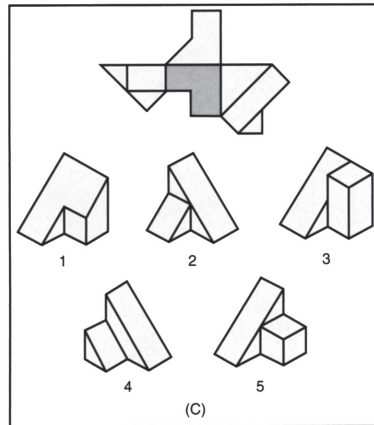
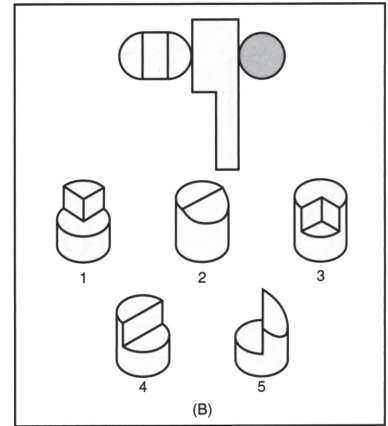
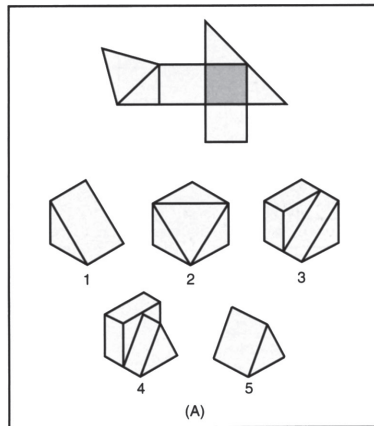
Flat Patterns

After a product is manufactured, it often has to be packaged for shipping and sale. There are many elements to the design of packaging. Being able to visualize folding a 2D flat pattern into a 3D surface model is a fundamental visualization skill.

The use of flat patterns is common in package design. Look at a cardboard box, such as a cereal box or a shipping box. Without unfolding the box, can you visualize what it would look like flat? If you were to take it apart, unfold it, and lay it flat, how many pieces of cardboard would it be made from?

Visualizing the design of a flat pattern for a rectangular box should be relatively easy because it has only horizontal or vertical fold lines, and simple consecutive folds. If you have more complex shapes, and angled or oblique surfaces, this will require more folds along lines that are not horizontal or vertical. It takes practice to be able to visualize these more complex developments.

Exercise 1 Match the development, or unfolded pattern, to the correct 3D object. The shaded portion of the development is the bottom surface.



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Exercise 2 The image represents a piece of paper that is folded then has a hole drilled through it. Select the image on the right that correctly represents the unfolded piece of paper with the resulting holes.

	<table border="1"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> </tr> </thead> <tbody> <tr><td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr><td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr><td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr><td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr><td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr><td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr><td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr><td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr><td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr><td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	A	B	C	D	E																																																		
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Exercise 3 Look at the complete shapes shown in the key as A, B, C, and D. If you were to fit together the two pieces in the problems below, which complete shape would the result resemble?

KEY			
A	B	C	D

<p>1. A B C D</p>	<p>6. A B C D</p>
<p>2. A B C D</p>	<p>7. A B C D</p>
<p>3. A B C D</p>	<p>8. A B C D</p>
<p>4. A B C D</p>	<p>9. A B C D</p>
<p>5. A B C D</p>	<p>10. A B C D</p>

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