

Student Guide

3-D to 2-D (SG pp. 319–320)
Questions 1–3




- 1.* B, See the lesson.
- 2–3.* Answers will vary.

3-D to 2-D

Drawing a Cube

You can use geometry to help you learn to draw a cube. Studying the edges, faces, and vertices of a cube will help you draw what you see when you look at a cube. A **cube** is a box that has six faces. All the edges of a cube are the same length.


1. Here are 3 sketches of a cube. Which look like a cube? Which do not? Explain your choice.


A.  B.  C. 

2. Using what you have learned, try to draw a cube.

Use either of these two methods to practice drawing a cube. You can also come up with a method of your own.

Drawing a Cube by Showing Three Faces



Step 1 Draw a square for the front face. 

Step 2 Draw three small, parallel lines going back from the top corners and one side corner. These lines must be the same length. 


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
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

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Step 3 Draw two connecting lines. The first line should be along the top, and the second line should be along the side.  

Drawing a Cube by Showing Its Skeleton

Step 1 Draw a square for the front face. 

Step 2 Above and to the right of the first square, draw another square of the same size. Notice that one corner of each square is in the center of the other square, forming a new, smaller square. 

Step 3 Connect the four corners of the first square with the same corners of the second square.  

3. How are the drawings from the two methods alike?
How are they different?

Use the *Analyze Faces of 3-D Shapes* pages in the *Student Activity Book* to practice relating 2-D and 3-D Shapes.

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*Answers and/or discussion are included in the lesson.