CHAPTER
14 Three-Dimensional Shapes
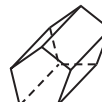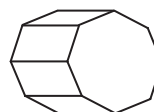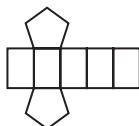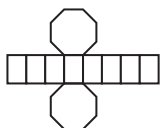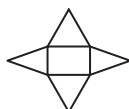
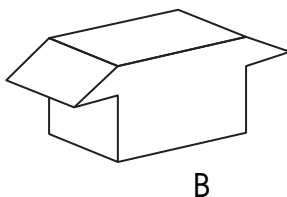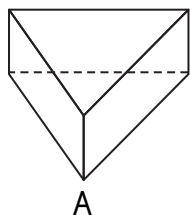**PROBLEM SOLVING**
Thinking Skills

Solve.

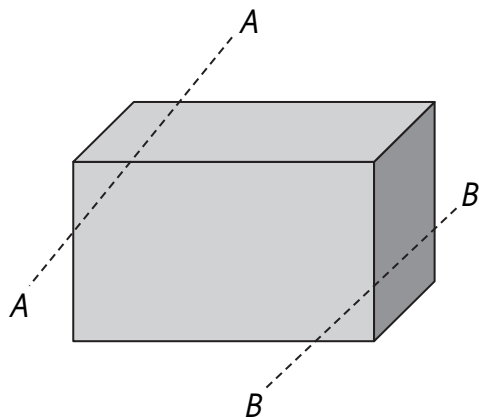**1.** Match the nets with the 3D shapes they form.
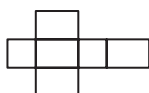
Solve. Show your work.

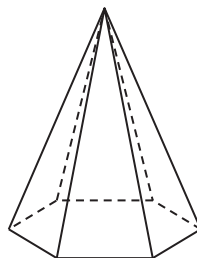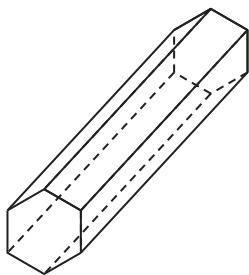**2.** How many more faces does Solid B have than Solid A?
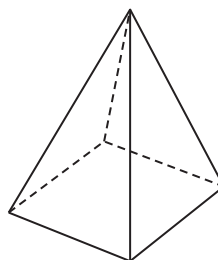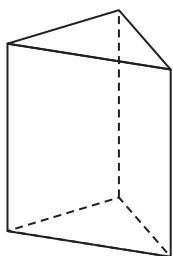

A   B

3. A rectangular prism is cut as shown. How many more edges will there be in the new shape than there were in the original rectangular prism?

Solve.

4. Color a pair of 3D shapes that have the same number of

   a. faces using red,

   b. edges using green, and

   c. vertices using blue.

   Hint: Count the slanted edges as edges.
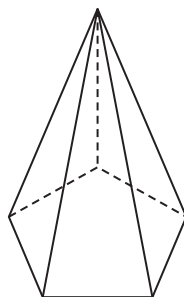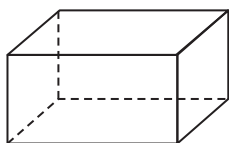
5.   Circle the net that cannot form the solid shown.

Solid

6.   Color the net that cannot form a solid.
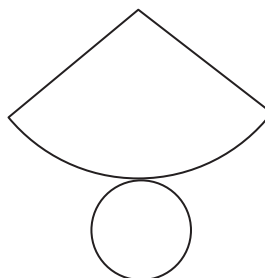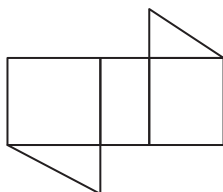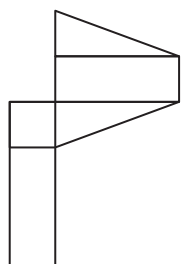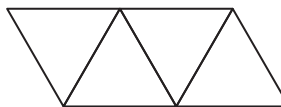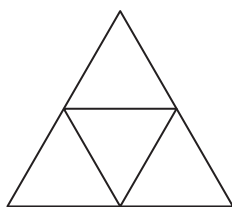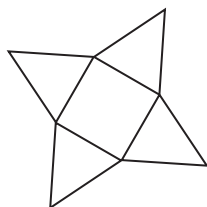
PROBLEM SOLVING
Strategies

Solve. Show your work.

7.   Find the number of faces that the 11th figure will have.
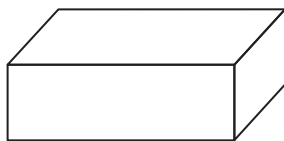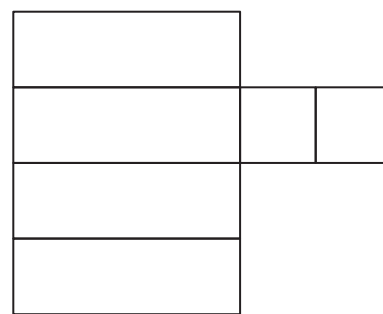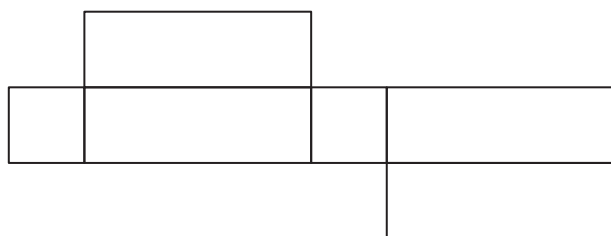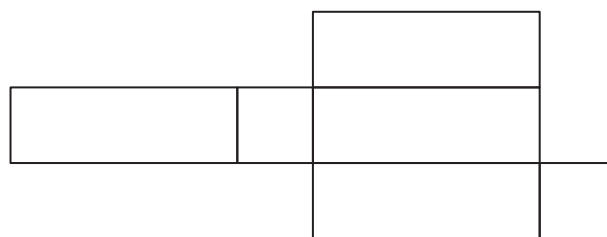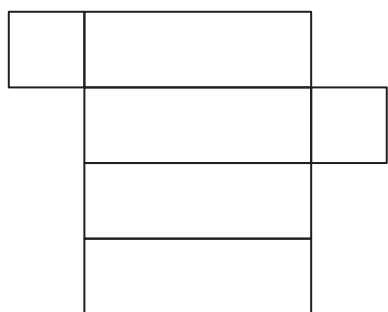

1st figure   2nd figure   3rd figure   4th figure
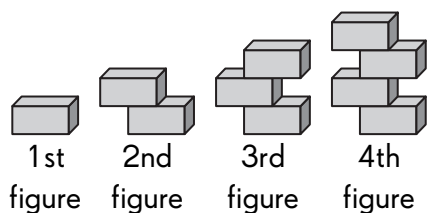
8.   Gillian has 14 solid shapes. The number of solid shape A is twice as many as the number of solid shape B. The number of solid shape C is half as many as the number of solid shape B. Gillian has to count the total number of flat surfaces for all the solids. How many flat surfaces are there?

A   B   C
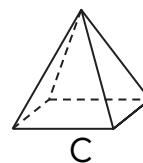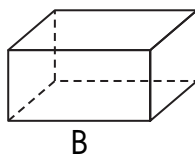
PROBLEM SOLVING

Exploration

Solve. Show your work.

9. Count the number of vertices, edges, and faces of a triangular, rectangular, and hexagonal pyramid. Record the results in the table below.

Pyramid	Number of vertices	Number of edges	Number of faces
Triangular			
Rectangular			
Hexagonal			

Can you see any patterns in the table?

If so, check the pattern rule using a pentagonal pyramid.

10.   Examine the shapes of a cylinder and an octagonal prism.
Describe any similarities you see.

11.   Examine the shapes of a cone and an octagonal pyramid.
Describe any similarities you see.

Journal Writing

Solve. Show your work.

12. Give a detailed description of a:

    a. rectangular prism

    b. hexagonal pyramid

13. Compare a triangular prism and a triangular pyramid.
Explain their differences with reference to the

    a. bases:

    b. edges:

    c. vertices: