

Lesson 10-5

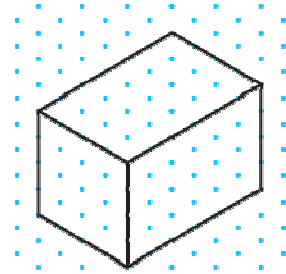
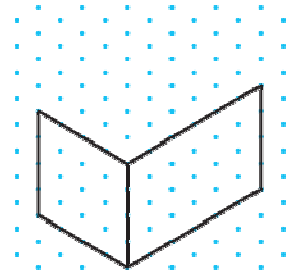
Example 1

Make an isometric drawing of a rectangular prism.

Solution

Step 1 Begin by drawing a vertical line, which will be the front edge of the prism. Then draw the right and left edges of the prism.

Step 2 Draw the vertical sides of the prism parallel to the front edge. Complete the isometric drawing by sketching the rear edges of the prism.



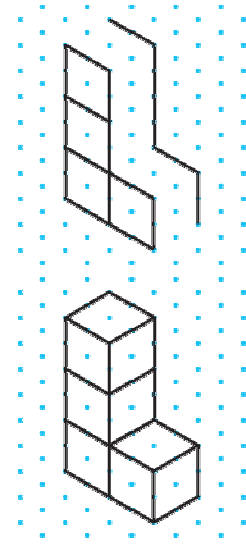
Example 2

Make an isometric drawing of a figure containing four cubes that form an L shape.

Solution

Step 1 Begin by drawing the left edges of the figure. Then draw the segments for the right edges of the figure. These segments are parallel to the edges of the left side.

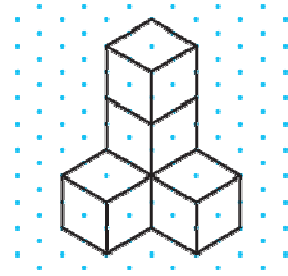
Step 2 Complete the isometric drawing by sketching the remaining segments that outline the cubes.



Example 3

Use the isometric drawing to answer the questions.

- How many cubes are used in the drawing
- How many cube faces are exposed in the figure?
- If each cube face represents 4 cm^2 , what is the total surface area of the figure?

**Solution**

- The figure contains five cubes. The top two cubes are resting on a cube beneath them.
- To count the total number of cube faces, proceed in a logical manner so that you do not miss any sides.

Cube faces pointing up = 3
Cube faces pointing to the front = 8
Cube faces pointing to the back = 8
Cube faces pointing down = 3

There are a total of $3 + 8 + 8 + 3 = 22$ cube faces on the figure.

- Since there are 22 cube faces and each face represents 4 cm^2 , the total surface area of the figure is $22 \cdot 4 = 88 \text{ cm}^2$.