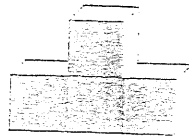
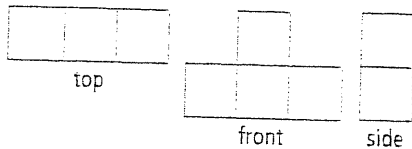


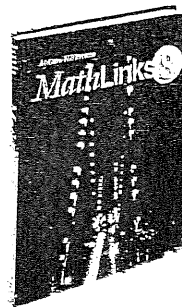
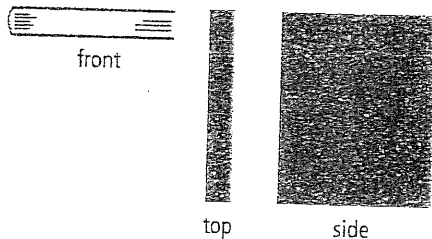
Key Ideas

- A minimum of three views are needed to describe a 3-D object.
- Using the top, front, and side views, you can build or draw a 3-D object.



Communicate the Ideas

1. Raina insists that you need to tell her all six views so she can draw your object. Is she correct? Explain why or why not.
2. Are these views correct? Justify your answer.

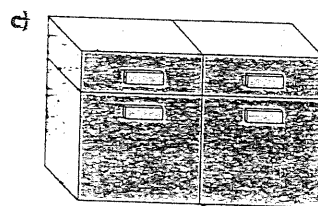
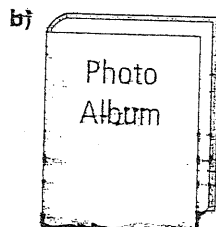
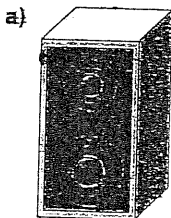


Check Your Understanding

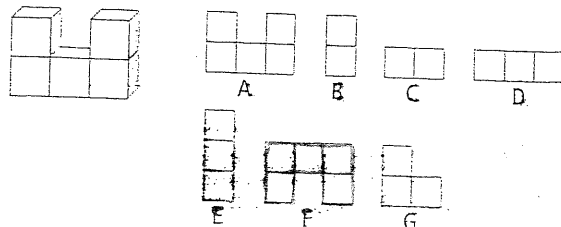
Practise

For help with #3 and #4, refer to Example 1 on pages 165–166.

3. Sketch and label the top, front, and side views.

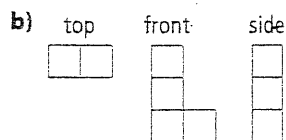
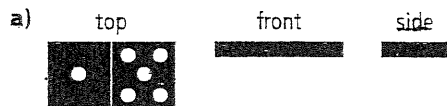


4. Choose the correct top, front, and side view for this object and label each one.



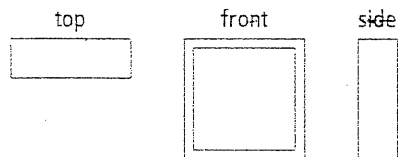
For help with #5, refer to Example 2 on page 166.

views below.



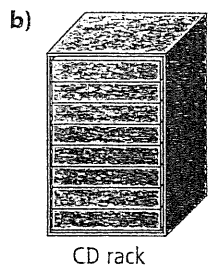
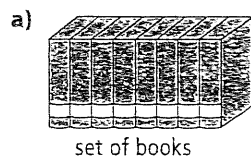
For help with #6 and #7, refer to Example 3 on page 167.

6. A television set has the following views.



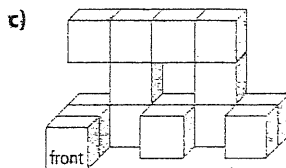
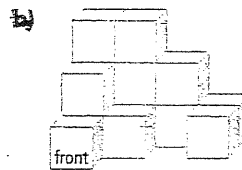
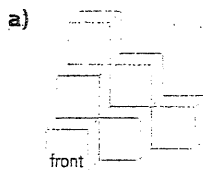
If you turn the television 90° counterclockwise, how would the three views change? Sketch and label each new view.

7. Choose which object has a front view like this after a rotation of 90° clockwise onto its side.



Apply

- Choose two 3-D objects from your classroom. Sketch the top, front, and side views for each one.
- Sketch the front, top, and right side views for these solids.



Extend

- Describe two objects that meet this requirement: When you rotate an object 90° , the top, front, and side views are the same as the top, front, and side views of the object before it was rotated.
- An injured bumblebee sits at a vertex of a cube with edge length 1 m. The bee moves along the edges of the cube and comes back to the original vertex without visiting any other vertex twice.
 - Draw diagrams to show the bumblebee's trip around the cube.
 - What is the length, in metres, of the longest trip?

MATH LINK

Choose one of the essential buildings that you discussed for your new community on page 163. Draw and label a front, side, and top view.