

# 5

## Practice Test

For #1 to #5, choose the best answer.

1. The top view of this container shows a

- A circle
- B square
- C triangle
- D rectangle

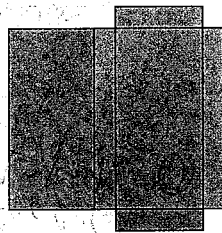


2. One face on a cube has an area of  $49 \text{ cm}^2$ . What is the surface area of the cube?

- A  $343 \text{ cm}^2$
- B  $294 \text{ cm}^2$
- C  $196 \text{ cm}^2$
- D  $154 \text{ cm}^2$

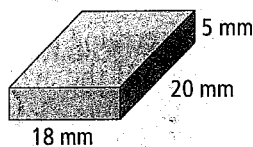
3. What three-dimensional object has a net like this one?

- A cube
- B cylinder
- C triangular prism
- D rectangular prism



4. What is the surface area of this box?

- A  $550 \text{ mm}^2$
- B  $900 \text{ mm}^2$
- C  $1100 \text{ mm}^2$
- D  $1800 \text{ mm}^2$

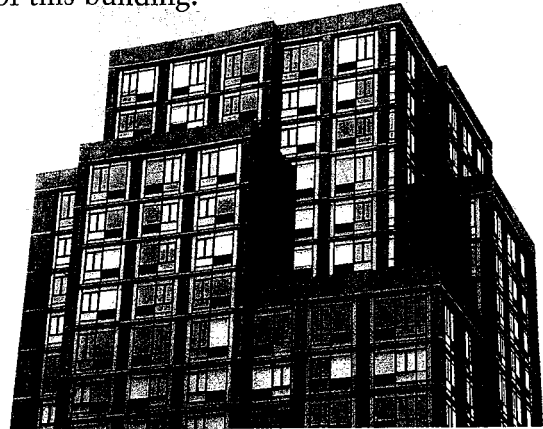


5. What is the surface area of a cylinder that is  $30.5 \text{ cm}$  long and has a radius of  $3 \text{ cm}$ , to the nearest hundredth of a square centimetre?

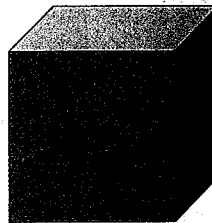
- A  $274.50 \text{ cm}^2$
- B  $603.19 \text{ cm}^2$
- C  $631.14 \text{ cm}^2$
- D  $688.01 \text{ cm}^2$

### Short Answer

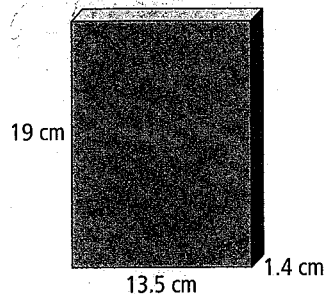
6. Sketch the top, front, and side views of this building.



7. An object may have more than one net. Draw three different nets for this cube.



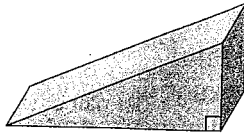
8. A DVD case is made of a plastic covering that measures  $19 \text{ cm}$  long,  $13.5 \text{ cm}$  wide, and  $1.4 \text{ cm}$  thick. Calculate the surface area to the nearest tenth of a square centimetre.



9. The surface area of a cube is  $1014 \text{ cm}^2$ . Find the length of any side of the cube:

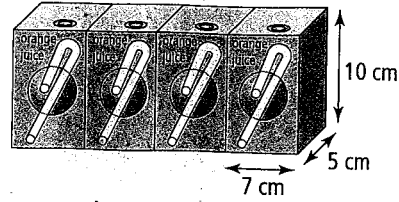
### Extended Response

10. a) Sketch a three-dimensional object you can build using two of these triangular prisms.

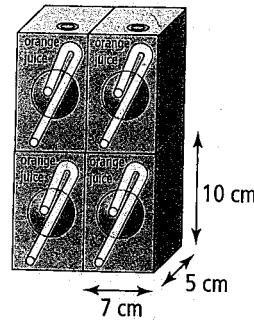


- b) Draw the front view, top view, and side view of your object.  
c) Draw a net for your object.
11. Ken and Arika are comparing their cylinders. Arika's cylinder is twice as tall as Ken's, but is only half the diameter. Ken's cylinder has a height of 18 cm and a diameter of 9 cm. Whose cylinder has the greater surface area? Explain.

12. Single-serving juice boxes measure 10 cm by 7 cm by 5 cm. A manufacturer wants to shrink wrap four boxes together for sale. Which of the following arrangements of the boxes will use the least amount of plastic wrap? Show how you know.



Arrangement 1



Arrangement 2

**GROUP WORK**

Use this time to check your mathematical work and work together to finalize one actual view for each arrangement. You may choose to start with the view you created on page 163.

Include the following in your diagram and response:

- All the dimensions (length, width, and height) of the object.
- A red dashed line and surface area calculation for one view (including for each dimension of your object). The new design should include at least one prism and cylinder.
- Check each other's work before submitting.
- Strate to navigate through the city.
- Environmental considerations such as water source, bank, etc.

