

7.4

Solving Problems Involving Prisms and Cylinders*MathLinks 8, pages 268–275***Key Ideas Review***Unscramble the words to complete the sentences below.*

1. a) There are many types of problems involving volumes of

_____ and _____.

SIPSMR

SENYLCDRI

- b) You may need to decide which _____ to use.

LUAFROM

- c) It may help to draw a _____.

RMAAGID

2. You may have to do more than one set of _____.

SONUATCLACLI

Practise and Apply

3. Patrick is packing his CDs because his family is moving. He has a box measuring $22\text{ cm} \times 13\text{ cm} \times 14\text{ cm}$. Each CD measures $14\text{ cm} \times 12.5\text{ cm} \times 1\text{ cm}$.

- a) Draw a sketch to show the best way for Patrick to pack the CDs.

- b) How many CDs will fit in the box? Show your thinking.

4. Kenu has a thermos of hot chocolate, which has a diameter of 10 cm and is 22 cm tall to the rim, not including the lid. The insulation is 1.5 cm thick.



- a) How much space is available for his hot chocolate? Express your answer to the closest hundredth.

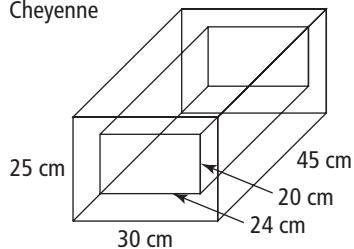
- b) How much material is used for the insulation? Express your answer to the closest hundredth.

Name: _____

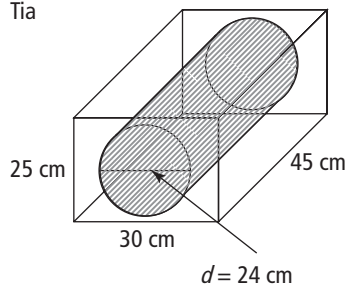
Date: _____

5. Cheyenne, Alisha, and Tia entered the ice sculpture contest at the winter carnival. This year contestants are given a block of ice to sculpt that measures $45\text{ cm} \times 30\text{ cm} \times 25\text{ cm}$. Who has the least amount of ice shavings after sculpting objects from the block? Show your thinking.

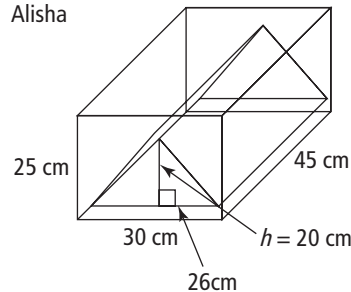
Cheyenne



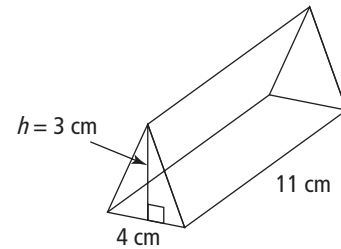
Tia



Alisha



6. Steve is counting bead containers for inventory. Below is the bead container.



There are boxes filled with bead containers. Each box measures $20\text{ cm} \times 11\text{ cm} \times 12\text{ cm}$.

- Draw and label how you will pack the containers into each box.
- What is the maximum number of bead containers each box will hold?
- If there are three boxes, how many bead containers will Steve have to count?