

Name: _____

Date: _____

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

prisms and Cylinders
SIPSMR SENYLCDRI

- b) You may need to decide which formula to use.
LUAFROM

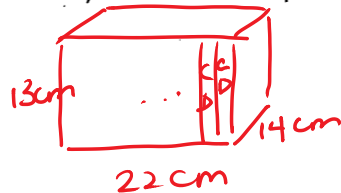
- c) It may help to draw a diagram.
RMAAGID

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

Practise and Apply

3. Patrick is packing his CDs because his family is moving. He has a box measuring 22 cm × 13 cm × 14 cm. Each CD measures 14 cm × 12.5 cm × 1 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.

22 CD'S

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.

788.53 cm³

(Remember to subtract 1.5 for diameter + height)

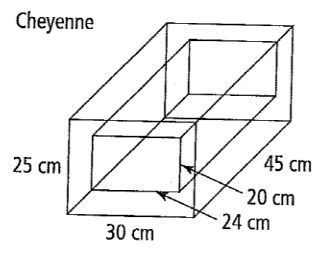
- b) How much material is used for the insulation? Express your answer to the closest hundredth.

938.47 cm³

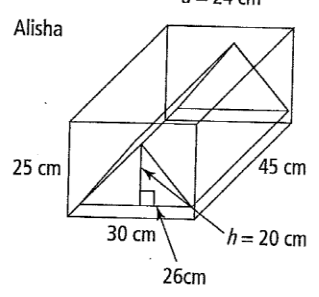
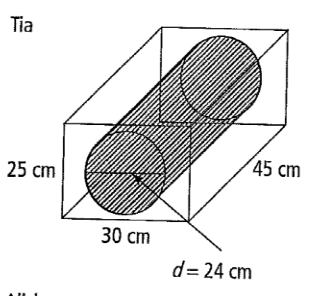
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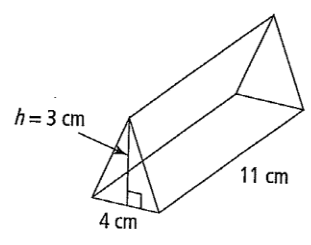
5. Cheyenne, Alisha, and Tia entered the ice sculpture contest at the winter carnival. This year contestants are given a block of ice to sculpt that measures $45\text{ cm} \times 30\text{ cm} \times 25\text{ cm}$. Who has the least amount of ice shavings after sculpting objects from the block? Show your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



Cheyenne

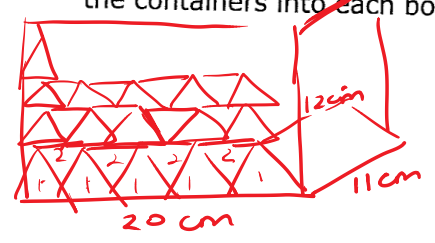


6. Steve is counting bead containers for inventory. Below is the bead container.



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

a) Draw and label how you will pack the containers into each box.



4
5
4
5
4
5
4
5

b) What is the maximum number of bead containers each box will hold?

4 rows high ($12 \div 3 = 4$)
5 Δ 's at the bottom ($20 \div 4 = 5$)
36

c) If there are three boxes, how many bead containers will Steve have to count?

$36 \times 3 = 108$