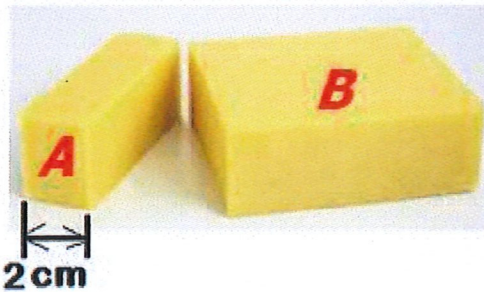
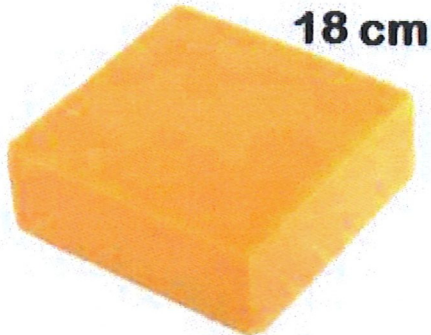


Problem Solving – Cheese Set [CORE]

Area, surface area, volume, circumference

<http://www.learnersgrid.com>

[1] Say, "Cheese!"



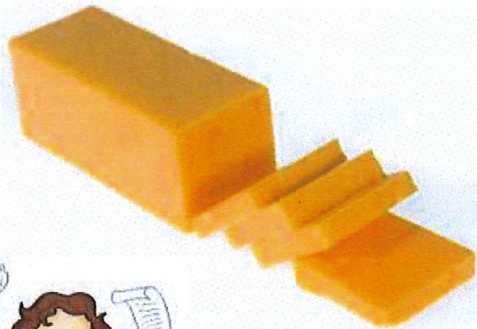
Round all answers to 1 d.p.

Mrs Gibble bought a block of cheese. The block of cheese measured 18 cm by 18 cm, and it was 3 cm in height.

Mrs Gibble sliced off a small block 2 cm wide (see picture to the left).

What is the volume of cheese in the original cheese block (i.e. block "B" in the picture to the left)?

2] Say it again, Sam!



Round all answers to 1 d.p.

Sam had a large block of cheese.

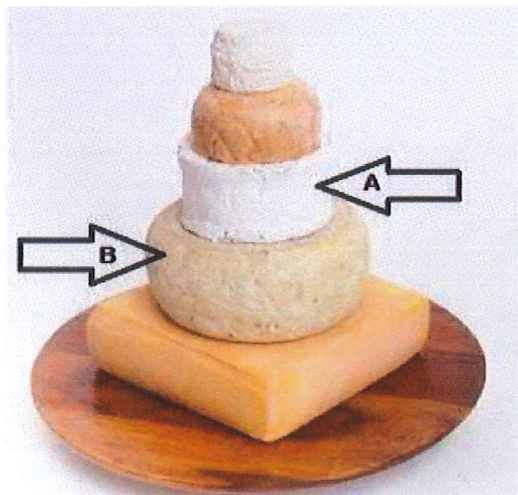
The block of cheese measured 24 cm x 9 cm x 9 cm.

Sam sliced the block of cheese into 12 identically-sized slices.

(a) Give the volume of the original block of cheese.

(b) Give the volume of one slice of cheese.

[3] **Cheese Wheels**



Round all answers to 1 d.p.

Daisy enjoyed rolling cheese wheels at the annual cheese festival.

At the most recent festival, she rolled cheese wheel A through 15 full rotations.

She also rolled cheese wheel B through 17 full rotations.

Cheese wheel A has a radius of 4 cm.
Cheese wheel B has a diameter of 7 cm.

(a) How many centimetres did cheese wheel A travel?

(b) How many centimetres did cheese wheel B travel?

[4] **Flag of Guyana**



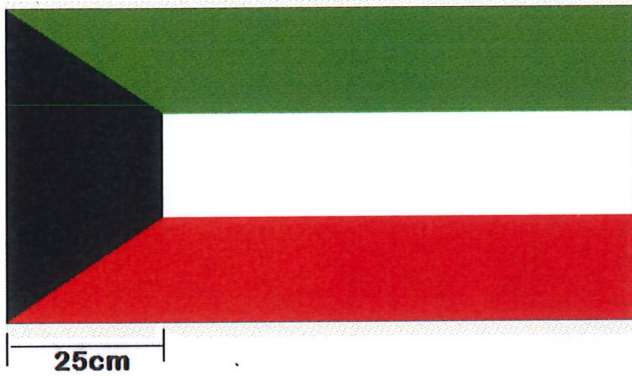
Round all answers to 1 d.p.

This flag is 2 metres in length and 1 metre in width.
This is the national flag of Guyana.

(a) Give the area of ONE of the green triangles.

(b) Give the total area of the flag that is NOT green.

[5] **Flag of Kuwait**



Round all answers to 1 d.p.

This flag is 2 metres in length and 0.9 metres in width. This is the national flag of Kuwait. The red, white and green stripes divide the width of the flag evenly.

(a) Give the total area of the black part of this flag.

(b) Give the area of the white rectangle part of this flag.

[6] **New House**



Round all answers to 1 d.p.

This is Harriet's new house.

The square window in the wall is 120 centimetres long.

The base of the house is seven times longer than the window.

The top edge of the house is 9 times as long as the window.

The height of the house is 2.5 times the height of the window.

(a) Give the total area of this wall of the house (INCLUDING the window).

(b) Give the total area of this wall of the house (EXCLUDING the window).

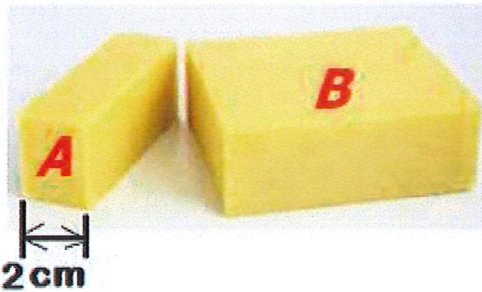
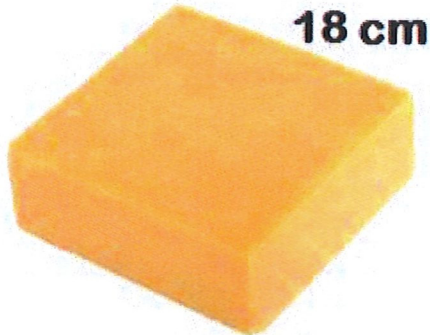
Problem Solving – Cheese Set [CORE]

Area, surface area, volume, circumference

SOLUTIONS

<http://www.learnersgrid.com>

[1] **Say, "Cheese!"**



Round all answers to 1 d.p.

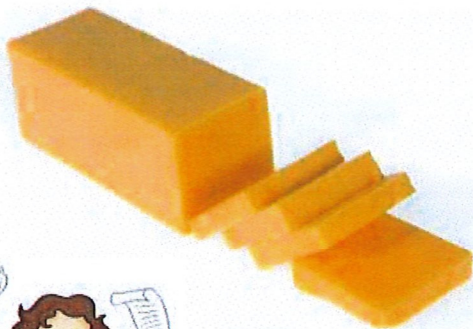
Mrs Gibble bought a block of cheese. The block of cheese measured 18 cm by 18 cm, and it was 3 cm in height.

Mrs Gibble sliced off a small block 2 cm wide (see picture to the left).

What is the volume of cheese in the original cheese block (i.e. block "B" in the picture to the left)?

$$\begin{array}{r} 972 \\ - 108 \\ \hline 864 \text{ cm}^3 \end{array}$$

2] **Say it again, Sam!**



Round all answers to 1 d.p.

Sam had a large block of cheese.

The block of cheese measured 24 cm x 9 cm x 9 cm.

Sam sliced the block of cheese into 12 identically-sized slices.

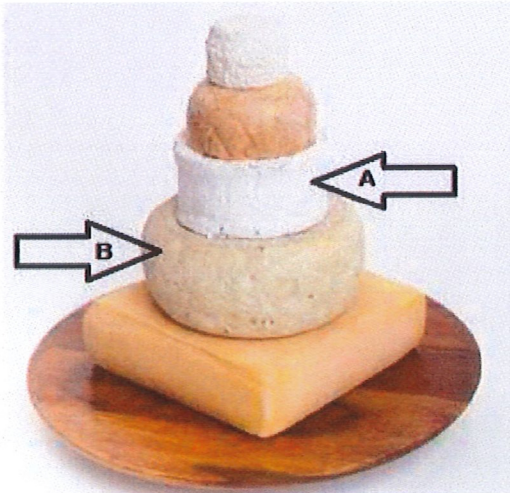
(a) Give the volume of the original block of cheese.

$$1,944 \text{ cm}^3$$

(b) Give the volume of one slice of cheese.

$$162 \text{ cm}^3$$

[3] **Cheese Wheels**



Round all answers to 1 d.p.

Daisy enjoyed rolling cheese wheels at the annual cheese festival.

At the most recent festival, she rolled cheese wheel A through 15 full rotations.

She also rolled cheese wheel B through 17 full rotations.

Cheese wheel A has a radius of 4 cm.
Cheese wheel B has a diameter of 7 cm.

(a) How many centimetres did cheese wheel A travel?

$$d\pi = 8\pi \times 15 = 376.99$$

$$= \boxed{377 \text{ cm}}$$

(b) How many centimetres did cheese wheel B travel?

$$7\pi \times 17 = 373.849$$

$$= \boxed{373.8 \text{ cm}}$$

[4] **Flag of Guyana**



Round all answers to 1 d.p.

This flag is 2 metres in length and 1 metres in width.
This is the national flag of Guyana.

(a) Give the area of ONE of the green triangles.

$$\boxed{0.5 \text{ m}^2} \quad \text{or} \quad \boxed{5,000 \text{ cm}^2}$$

(b) Give the total area of the flag that is NOT green.

$$\boxed{1 \text{ m}^2} \quad \text{or}$$

$$\boxed{10,000 \text{ cm}^2}$$

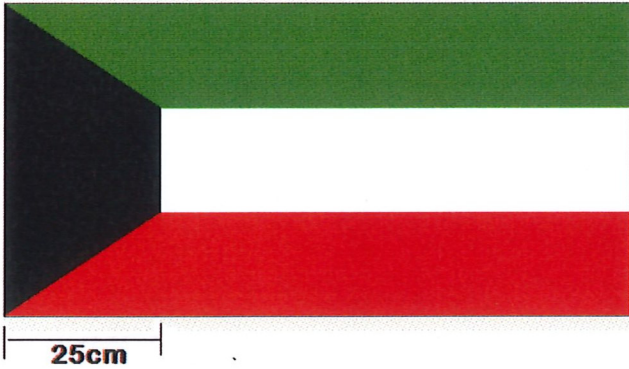
Problem Solving – Cheese Set [CORE] page 3 of 3

Area, surface area, volume, circumference

SOLUTIONS

<http://www.learnersgrid.com>

[5] Flag of Kuwait



Round all answers to 1 d.p.

This flag is 2 metres in length and 0.9 metres in width. This is the national flag of Kuwait. The red, white and green stripes divide the width of the flag evenly.

(a) Give the total area of the black part of this flag.

$$\boxed{0.15 \text{ m}^2} \quad \text{or} \quad \boxed{1,500 \text{ cm}^2}$$

(b) Give the area of the white rectangle part of this flag.

$$\boxed{0.525 \text{ m}^2} \quad \text{or} \quad \boxed{5,250 \text{ cm}^2}$$

[6] New House



Round all answers to 1 d.p.

This is Harriet's new house.

The square window in the wall is 120 centimetres long.

The base of the house is seven times longer than the window.

The top edge of the house is 9 times as long as the window.

The height of the house is 2.5 times the height of the window.

(a) Give the total area of this wall of the house (INCLUDING the window).

$$\boxed{28.8 \text{ m}^2}$$

(b) Give the total area of this wall of the house (EXCLUDING the window).

$$27.36 \text{ m}^2 \\ = \boxed{27.4 \text{ m}^2}$$