Higher Numeracy Summer 2017 P1 Q1a

(a)   Jasmine entered herself, Sophie and Bryn as a group in a talent contest.
Bryn only had a minor part.

Bryn, Sophie and Jasmine won the contest.
They shared the prize money in the ratio 2 : 6 : 7, with Bryn getting the smallest share.
Jasmine won £560, the largest share.

    (i)   How much money did Bryn and Sophie each win?   [4]

    (ii)   Jasmine gave 15% of her winnings to charity.
            How much did Jasmine have left?   [2]

Higher Numeracy Nov 2018 P2 Q2b

Emyr has set his lawn mower to work at a constant speed of 2000 m per hour.
He walks a distance of 300 m when he cuts his lawn.

(b)   Emyr cuts his lawn 25 times a year.
He uses 4·5 litres of petrol in his lawn mower each year.

How much petrol does the lawn mower use for every 100 metres that Emyr walks?
Give your answer in litres.   [3]

Higher Numeracy Summer 2019 P2 Q2c

(c)   In a portion of baked beans there is:
     •   1·85 g of salt,
     •   11·7 g of sugar.

For women, the recommended daily allowance of:
     •   salt is 6 g,
     •   sugar is 90 g.

Consider a portion of baked beans.
Is it salt or sugar that provides the greater proportion of the recommended daily allowance for women?
You must show all your working.   [3]

Higher Numeracy Sample 2 P1 Q1

You will be assessed on the quality of your organisation, communication and accuracy in writing in this question.

Ingredients to make **4 pancakes**
55 g plain flour
1 egg
100 ml milk
37·5 ml water
25 g butter

Useful information: metric and imperial units
4 ounces is approximately 110 g
25 ml of milk or water is approximately 1 fluid ounce

Owen works in a school kitchen.
He uses the recipe information for pancakes shown above.
He has measured out the plain flour, milk and butter and placed them with the eggs in a large bowl.
Owen measures out 150 fluid ounces of water to add to his other pancake ingredients in the bowl.
How many pancakes is Owen making?

[3 + OCW 2]

Intermediate Maths Nov 2017 P2 Q6b

(b)   Share 25·8 kg in the ratio 5 : 1.   [2]

Higher Maths Nov 2018 P1 Q3a

(a)   Share £720 in the ratio 2 : 7.   [2]

Higher Maths Sample 1 P1 Q4a

(a)   Calculate the largest share when £400 is shared in the ratio 1 : 2 : 5.   [2]

Higher Maths Nov 2017 P1_Q10

A cylinder just fits inside a hollow cube with sides of length m cm.

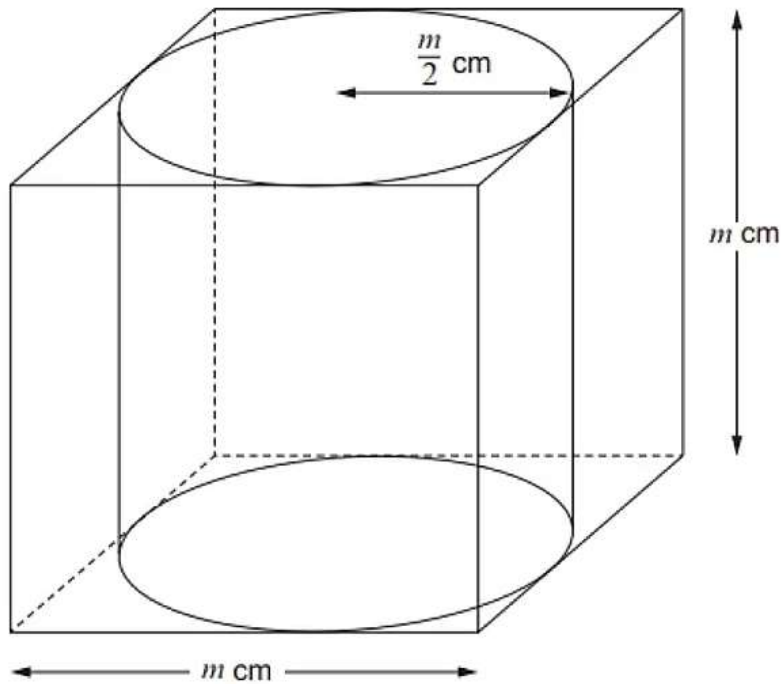$\frac{m}{2}$ cm

m cm

m cm

Diagram not drawn to scale

The radius of the cylinder is $\frac{m}{2}$ cm.

The height of the cylinder is m cm.

The ratio of the volume of the cube to the volume of the cylinder is given by
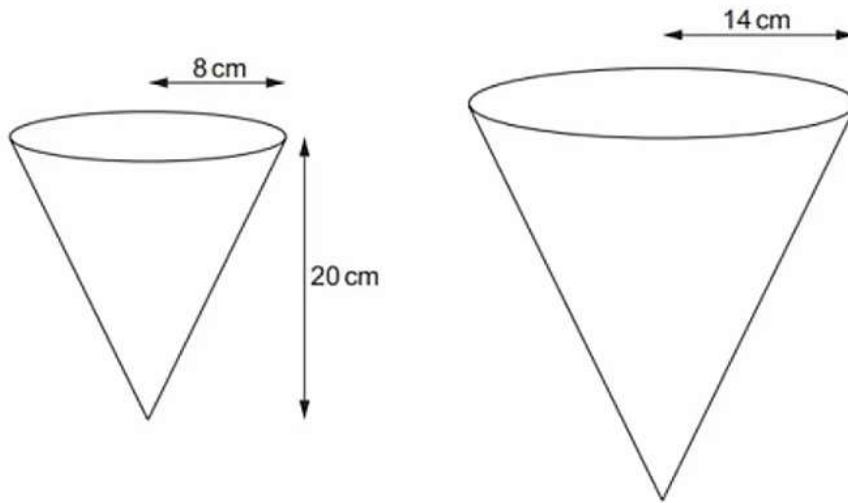
volume of cube : volume of cylinder

$= k : \pi,$

where k is a number.

Find the value of k.
You must show all your working.   [4]

_____

Higher Numeracy Nov 2017 P1_Q10

The diagram below shows two **similar** flasks for measuring liquid.

14 cm

8 cm

20 cm

Diagrams not drawn to scale

The flasks are in the shape of cones.
The smaller flask has a base radius of 8 cm and a vertical height of 20 cm.
The larger flask has a base radius of 14 cm.

(a)   Calculate the vertical height of the larger flask.   [2]

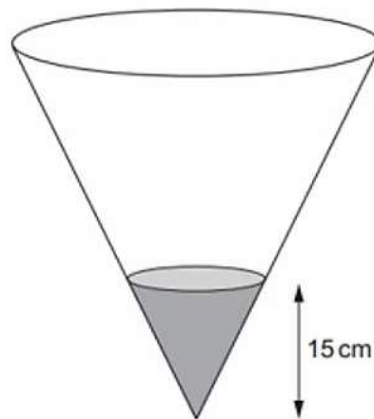(b)   The larger flask is now partly filled with liquid up to a vertical height of 15 cm.

15 cm

Diagram not drawn to scale

Calculate the volume of liquid in the flask.
Give your answer in terms of π.   [4]