

Topics

Algebra – Can I solve a linear equation?

Last Needed - 2023

1 ► 2012 LCOL Paper 1 – Question 4 (a)

Applied Arithmetic (Financial) – Can I convert from one currency to another?

Last Needed - 2023

2 ► 2010 LCOL Paper 1 – Question 1 (b)

Area, Perimeter and Volume – Can I calculate the volume of spheres and cylinders?

Last Needed - 2023

3 ► 2007 LCOL Paper 2 – Question 1 (c)

Trigonometry – Can I use Pythagoras Theorem and the trigonometric ratios to solve triangles?

Last Needed - 2023

4 ► 2011 LCOL Paper 2 – Question 5 (b)

Probabilities – Can I work out the number of arrangements?

Last Needed - 2023

5 ► 2010 LCOL Paper 2 – Question 6 (c)

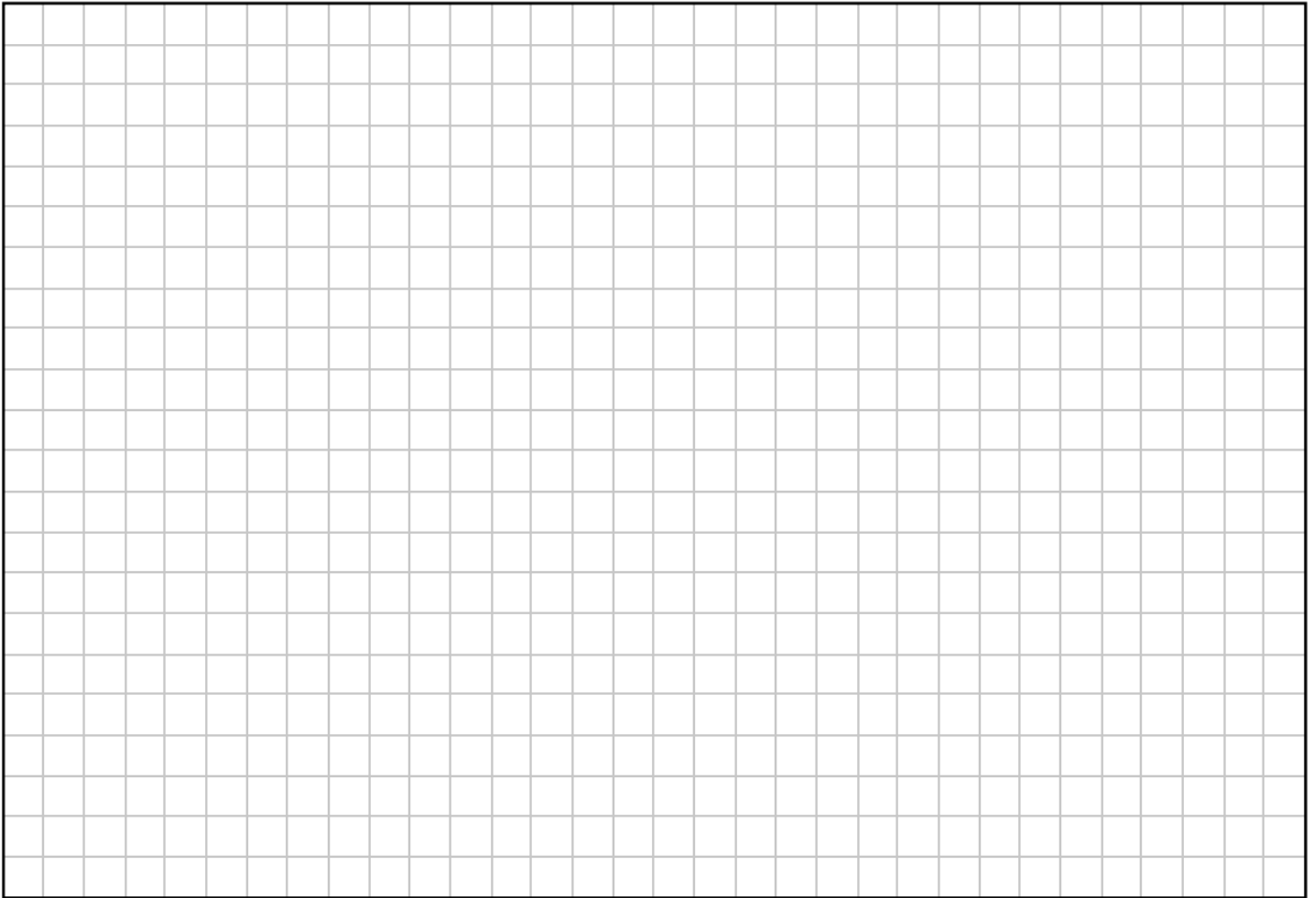
www.mathspoints.ie for **worked solutions** to these questions.

 [LCOL Resources by Topic](#)

 [LCOL Revision – 50 Common Questions](#)

1 ► 2012 LCOL Paper 1 – Question 4 (a)

Solve the equation $\frac{1}{2}(7x - 2) + 5 = 2x + 7$.



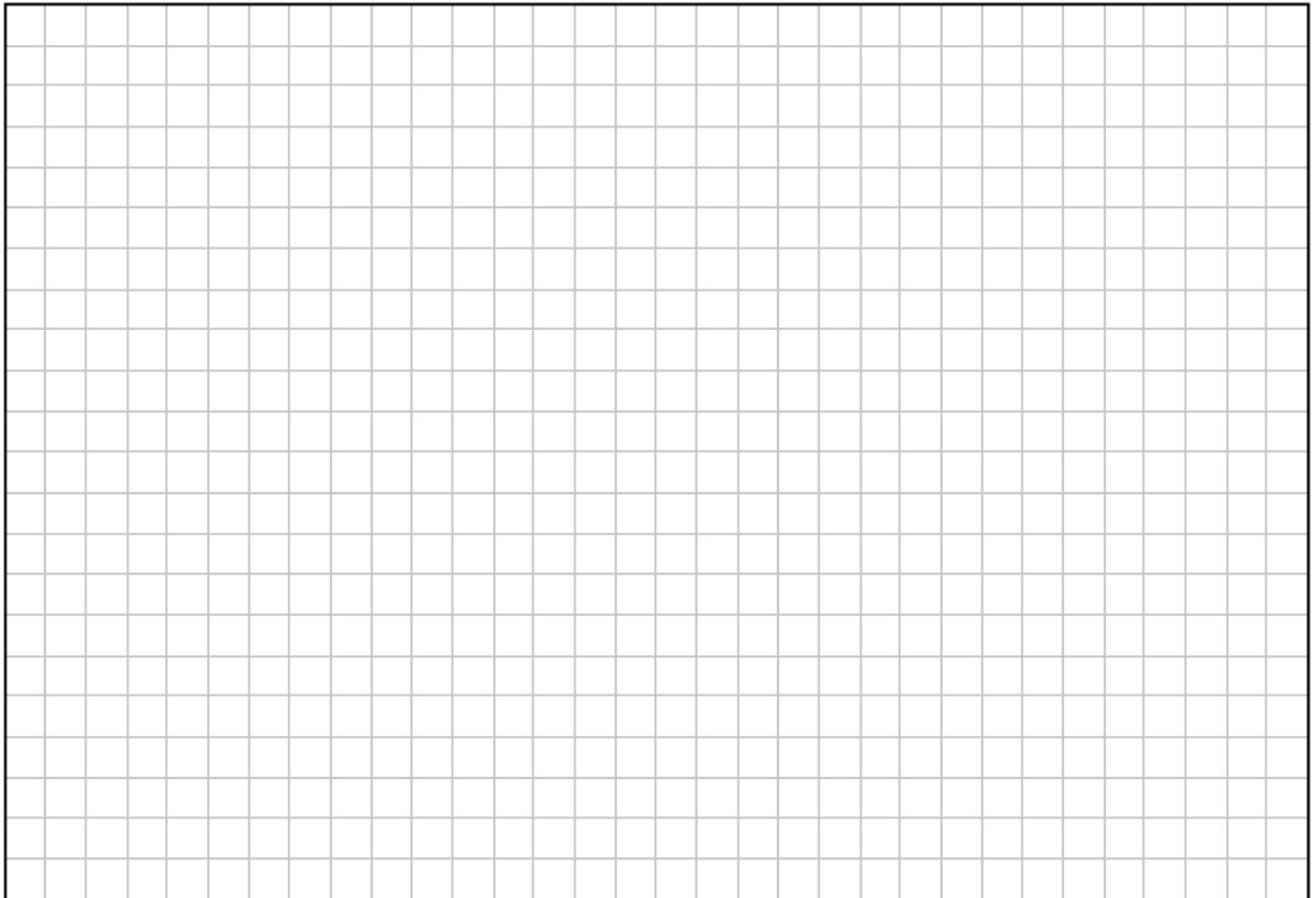
2 ▶ 2010 LCOL Paper 1 – Question 1 (b)

An importer buys an item for £221 sterling when the rate of exchange is

€1 = £0.85 sterling.

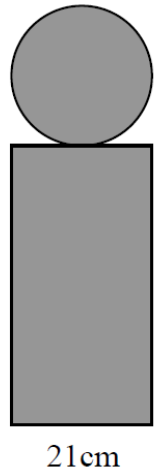
He sells it at a profit of 14% of the cost price.

Calculate, in euro, the price for which he sells the item.

A large grid for working out the solution, consisting of 20 columns and 20 rows of small squares.

3 ► 2007 LCOL Paper 2 – Question 1 (c)

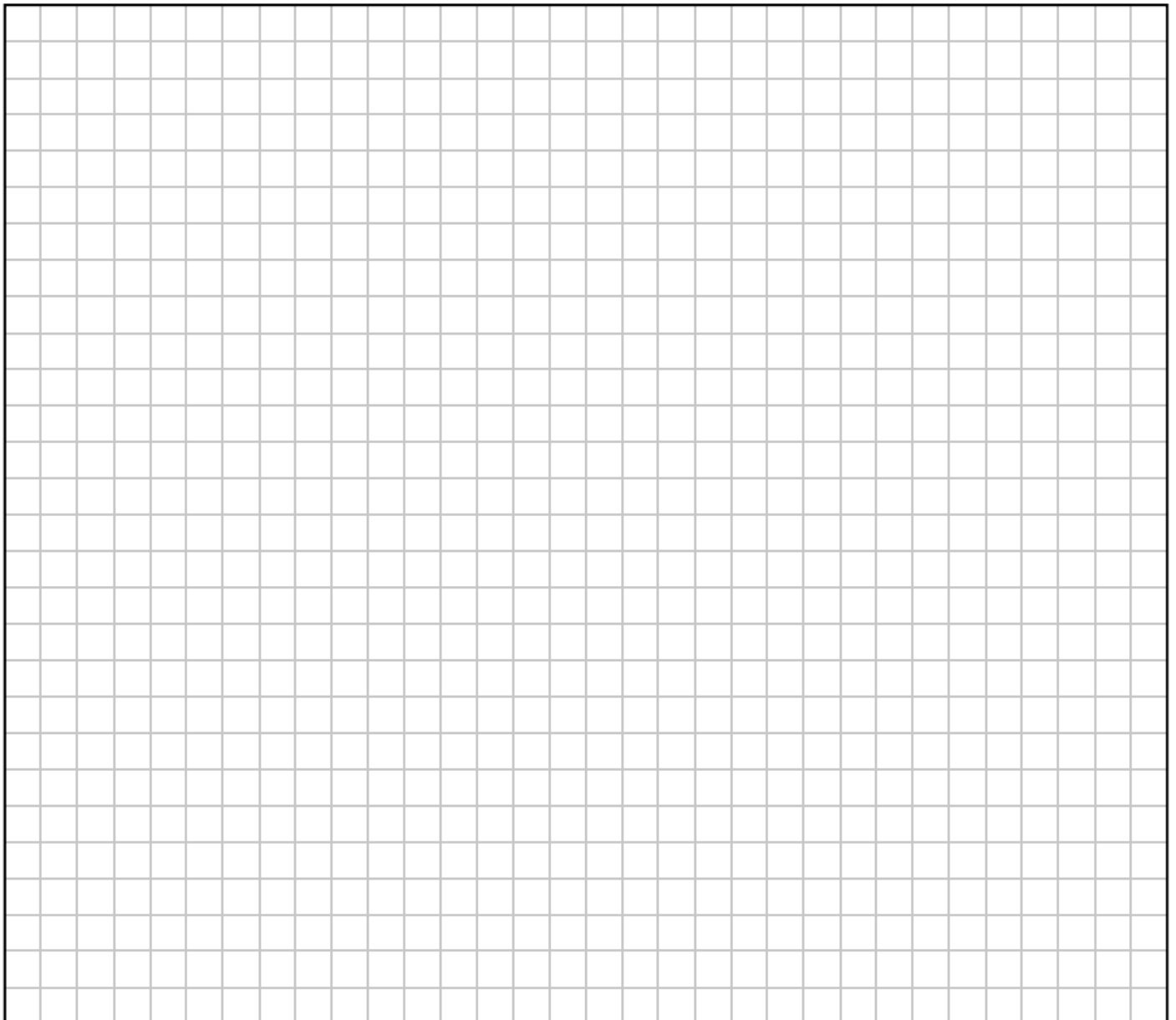
A team trophy for the winners of a football match is in the shape of a sphere supported on a cylindrical base, as shown. The diameter of the sphere and of the cylinder is 21 cm.



(i) Find the volume of the sphere, in terms of π .

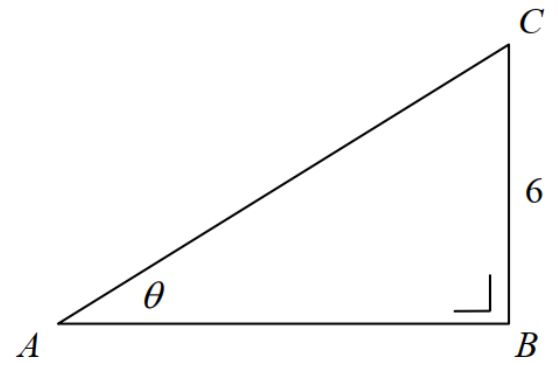
The volume of the trophy is $6174\pi \text{ cm}^3$.

(ii) Find the height of the cylinder.

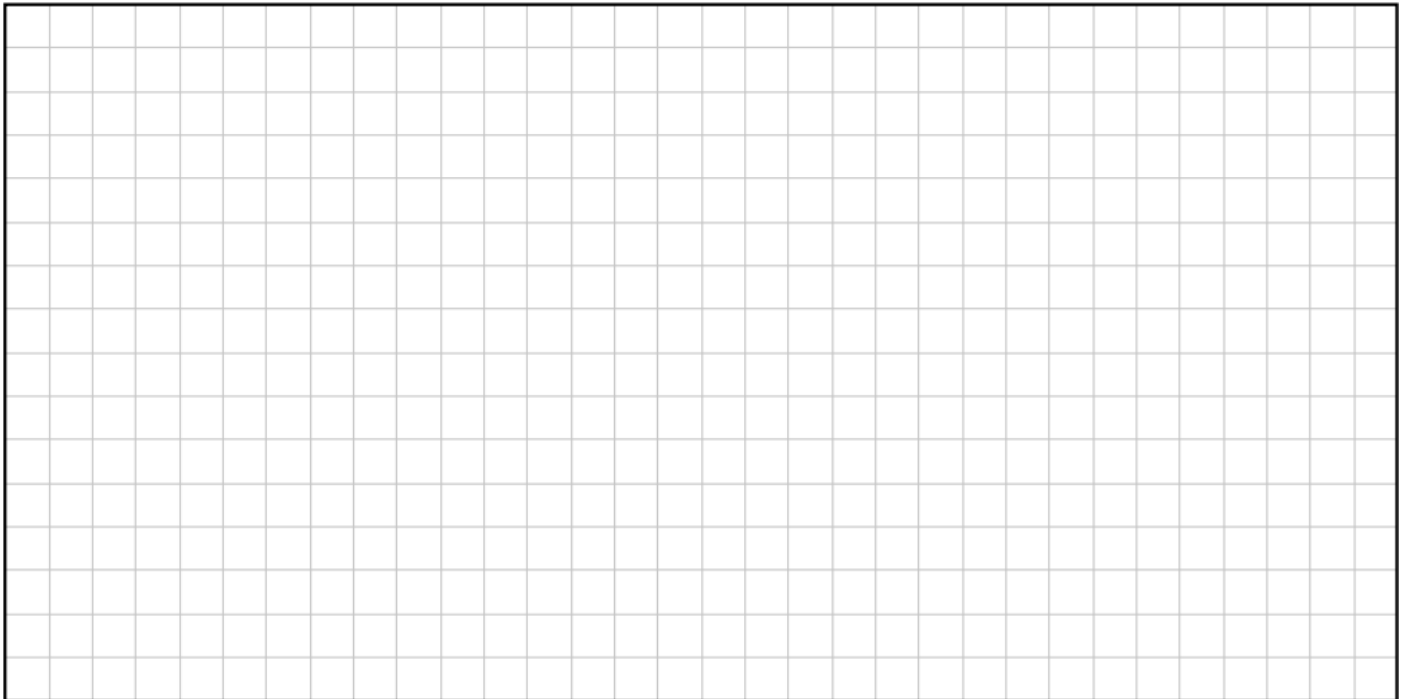


4 ► 2011 LCOL Paper 2 – Question 5 (b)

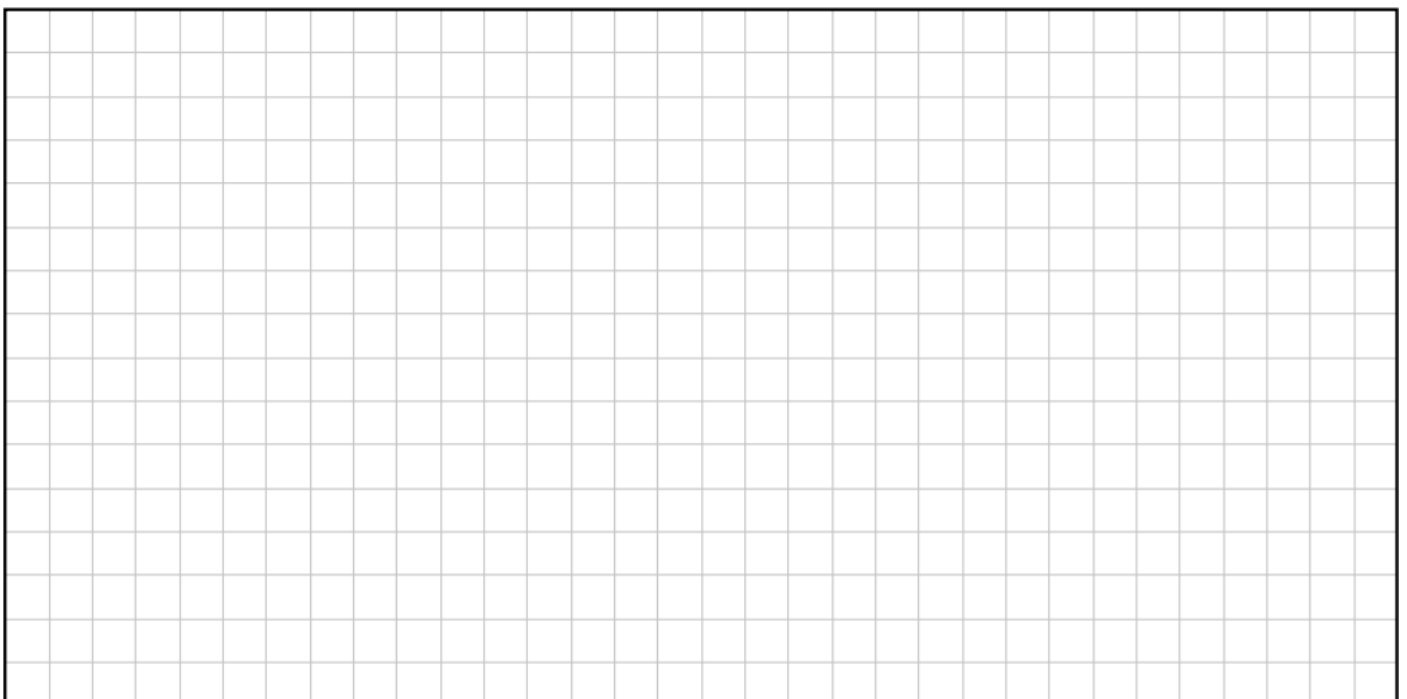
In the triangle ABC , $|BC| = 6$ cm, $|\angle ABC| = 90^\circ$, $|\angle CAB| = \theta$
and $\sin \theta = \frac{3}{5}$.



(i) Find $|AC|$.



(ii) Find $|AB|$.



(iii) Verify that $\cos^2\theta + \sin^2\theta = 1$.

